

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HULU, LLC,
Petitioner,

v.

SITO MOBILE R&D IP, LLC and SITO MOBILE, LTD.,
Patent Owner.

IPR2021-00308
Patent 8,825,887 B2

Before JONI Y. CHANG, THOMAS L. GIANNETTI, and
KEVIN W. CHERRY, *Administrative Patent Judges*.

CHANG, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Hulu, LLC (“Petitioner”) filed a Petition requesting an *inter partes* review (“IPR”) of claims 39, 40, 45, 47, 52, 68, 98–101, 103, 105, 111, and 115–117 (“the challenged claims”) of U.S. Patent No. 8,825,887 B2 (Ex. 1001, “the ’887 patent”). Paper 2 (“Pet.”), 1. SITO Mobile R&D IP, LLC and SITO Mobile Ltd. (collectively, “Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). On May 19, 2021, we instituted this *inter partes* review as to all of the challenged claims for all of the grounds of unpatentability asserted in the Petition. Paper 11 (“Dec.”).

Subsequent to institution, Patent Owner filed a corrected Response (Paper 26, “PO Resp.”) and a Sur-reply (Paper 25, “Sur-reply”). Petitioner filed a Reply (Paper 23, “Reply”). An oral hearing was held on February 7, 2022, and a transcript has been entered into the record as Paper 32 (“Tr.”).

This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons that follow, Petitioner has demonstrated by a preponderance of the evidence that claims 39, 40, 45, 47, 52, 68, 98–101, 103, 105, 111, and 115–117 of the ’887 patent are unpatentable.

A. Related Matters

The parties indicate that the ’887 patent is involved in *SITO Mobile R&D IPI, LLC and SITO Mobile, Ltd. v. Hulu, LLC*, Case No. 6:20-cv-00472-ADA (W.D. Tex. 2020). Pet. 75; Paper 5, 1.

B. The '887 Patent

The '887 patent is titled “System and Method for Routing Media” and “is related to the fields of management and administration of media streaming.” Ex. 1001, code (54), 1:36–37. According to the '887 patent, the demand for digital media streaming services was increasing because digital media streaming can be used to create enhanced consumer and business services. *Id.* at 1:49–52. Figure 1 is reproduced below.

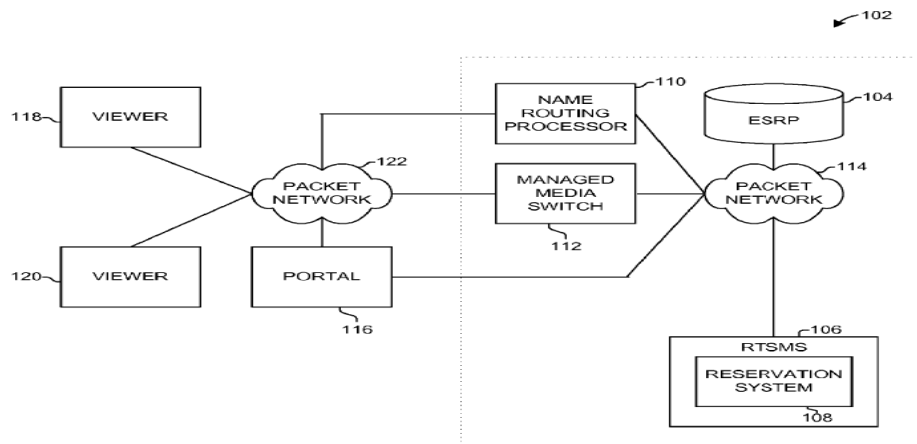


Figure 1 above depicts an exemplary embodiment of a streaming system. *Id.* at 4:55–56. Streaming system 102 comprises enhanced service routing processor (“ESRP”) 104, real time switch management system (“RTSMS”) 106, reservation system 108, name routing processor (“NRP”) 110, and managed media switch (“MMS”) 112, each of which communicates through packet network 114. *Id.* at 4:55–63. Portal 116 communicates with reservation system 108 of RTSMS 106 via packet network 114, and one or more viewers 118 and 120 may communicate with NRP 110, MMS 112, and/or portal 116 via packet network 122. *Id.* at 4:63–67.

C. Illustrative Claim

Of the challenged claims, claims 39, 45, 68, 98 are independent. Claim 40 depends from claim 39; claims 47 and 52 depend from claim 45; claim 99–101, 103, 105, 111, and 115–117 depend from claim 98.

Claim 39 is illustrative:

39. A method comprising:

[39.a] receiving, at at least one computing device via a communication network, a request for media from at least one communication device, the at least one communication device capable of executing instructions received from the at least one computing device to obtain at least one portion of the requested media using at least one resource other than the at least one computing device;

[39.b] identifying, at the at least one computing device, whether the requested media is available for streaming to the at least one communication device in accordance with at least one program;

[39.c] generating, at the at least one computing device based on the at least one program, one or more capabilities of the communication device, and at least one characteristic associated with a user of the communication device,

[39.c.1] (i) at least one list identifying at least a portion of the requested media,

[39.c.2] (ii) at least one identification of the at least one resource other than the at least one computing device available to facilitate streaming of the at least one portion of the requested media, and

[39.c.3] (iii) one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device;

[39.d] transmitting the at least one list, the least one identification of the at least one resource, and the one or more instructions from

the at least one computing device to the at least one communication device via the communication network;

[39.e] identifying at least one revenue sharing rule for sharing between at least two parties at least a percentage of revenue generated by streaming the at least the portion of the requested media; and

[39.f] generating at least one settlement record based on the at least one revenue sharing rule for sharing between the at least two parties the at least the percentage of revenue generated by streaming the at least the portion of the requested media.

Ex. 1001, 55:19–58 (bracketed matters and line breaks added).

D. Prior Art and Other Evidence

Petitioner relies upon the references listed below (Pet. 10):

Name	Reference	Date	Exhibit No.
Eyal	U.S. Patent No. 6,389,467 B1	May 14, 2002	1005
Chang	U.S. Patent No. 6,715,126 B1	Mar. 30, 2004	1009
Wolfe	U.S. Patent No. 5,931,901	Aug. 3, 1999	1044
Angles	U.S. Patent No. 6,385,592 B1	May 7, 2002	1045
Madison	U.S. Patent Pub. No. 2004/0083273A1	Apr. 29, 2004	1051

E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability (Pet. 2)¹:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
39, 40, 45, 47, 52, 68, 98–101, 103, 111, 115–117	103(a)	Eyal, Angles
105	103(a)	Eyal, Angles, Chang
39, 45, 52, 68, 98–101, 103, 105, 111, 115, 117	103(a)	Madison, Wolfe

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, we construe a patent claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b).” 37 C.F.R. § 42.100(b) (2019). Under this standard, the words of a claim generally are given their “ordinary and customary meaning,” which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

¹ For purposes of this Decision, we assume the claims at issue have an effective filing date prior to March 16, 2013, the effective date of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), and we apply the pre-AIA versions of 35 U.S.C. §§ 102 and 103.

In light of the parties’ arguments and supporting evidence in this entire trial record, we find that it is necessary to address only the claim terms identified below. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

1. “at least one portion of the requested media”

Claim 39 recites:

[39.a] receiving, at at least one computing device via a communication network, *a request for media* from at least one communication device, the at least one communication device capable of executing instructions received from the at least one computing device to obtain *at least one portion of the requested media* using at least one resource other than the at least one computing device.

Ex. 1001, 55:20–26 (emphases added). Claims 45, 68, and 98 each recite similar limitations. Patent Owner takes the position that all of the challenged claims require “streaming requested media in portions.” *See, e.g.*, PO Resp. 39–41. Through its arguments, Patent Owner implicitly construes the claim term “at least one portion of the requested media” to exclude the entirety of the “requested media” or to require that the “requested media” be broken up into portions. *Id.*; Sur-reply 1–2, 12–13; Ex. 2012 ¶¶ 171–174. Patent Owner made similar arguments in CBM2020-00028 involving the ’887 patent.

In the Final Written Decision for CBM2020-00028 (Paper 33, 9–13), we noted that, in the context of the '887 patent, the plain and ordinary meaning of the term encompasses one or more portions of the “requested media,” as well as the entirety of the “requested media.” And we declined to adopt Patent Owner’s implicit claim construction because it improperly imports extraneous limitations into the claims and excludes a preferred embodiment. Notably, the '887 patent discloses an embodiment in which the viewer sends a request for *each media clip* (the “requested media”) to a “computing device” and each media clip is received *in its entirety*, not broken up or received one portion of the media clip at a time as Patent Owner alleges. Ex. 1001, 13:49–14:2.

For the reasons stated above and in the Final Written Decision for CBM2020-00028 (Paper 33, 9–13), we decline to adopt Patent Owner’s implicit claim construction in this proceeding.

2. “instructions”

Claims 39, 45, 68, and 98 require “instructions” to obtain the requested media and “instructions as to how the at least one portion of the requested media is to be streamed.” *See, e.g.*, Ex. 1001, 55:23–26. Claim 111 depends from claim 98 and requires the “instructions” to include “instructions relating to at least one of a media format, a media language, a media sequence, and an advertisement insertion.” *Id.* at 65:5–11.

Neither party proffers a construction for the term “instructions.” Nevertheless, through its arguments, Patent Owner implicitly construes the term “instructions,” as used in the independent claims, to exclude

instructions relating to a media format, a media sequence, or an advertisement insertion, the types of instructions recited in claim 111. PO Resp. 34–36, 53–55; Sur-reply 19–22.

However, the Federal Circuit repeatedly has noted that “dependent claims can supply additional context for construing the scope of the independent claims associated with those dependent claims,” and that “[a]n independent claim impliedly embraces more subject matter than its narrower dependent claim.” *Intamin, Ltd. v. Magnetar Techs. Corp.*, 483 F.3d 1328, 1335 (Fed. Cir. 2007) (citing *Phillips*, 415 F.3d at 1314); *see also Innova/Pure Water, Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 111, 1123 (Fed. Cir. 2004) (“dependent claims are typically narrower”).

“By definition, an independent claim is broader than a claim that depends from it, so if a dependent claim reads on a particular embodiment of the claimed invention, the corresponding independent claim must cover that embodiment as well.” *Littelfuse, Inc. v. Mersen USA EP Corp.*, No. 2021-2013, slip op. at 7 (Fed. Cir. April 4, 2022) (citing *Baxalta Inc. v. Genentech, Inc.*, 972 F.3d 1341, 1346 (Fed. Cir. 2020) (“The district court’s construction [of the independent claim] which excludes these explicitly claimed embodiments [in the dependent claims] is inconsistent with the plain language of the claims.”)).

Here, it is undisputed that claim 111’s recitation of “instructions” refers back to claim 98’s “instructions” to obtain the requested media and related to how the requested media is to be streamed. *See, e.g.*, PO Resp. 45, 60 (asserting that the “instructions” recited in claim 111 “must be . . .

instructions to *obtain* requested media and related to *how* requested *media is to be streamed*"). Therefore, we decline to adopt Patent Owner's implicit claim construction excluding the types of instructions recited in claim 111. Rather, we determine that claims 39, 45, 68, and 98 embrace the types of instructions recited in claim 111—instructions related to “at least one of a media format, a media language, a media sequence, and an advertisement insertion.”

3. “settlement record”

Claim 98 recites “producing at least *one settlement record reflecting a sharing of the percentage of revenue* generated by streaming the at least the portion of the requested media.” Ex. 1001, 63:54–56 (emphasis added). Claims 39, 45, and 68 each recite similar limitations. Petitioner asserts that the term “settlement record” should be construed as “a billable event record to be used for revenue settlement purposes.” Pet. 11–12 (citing Ex. 1003 ¶¶ 121, 122). We adopted Petitioner's construction for purposes of our Institution Decision. Dec. 19. After institution, Patent Owner argues that it does not agree with Petitioner's construction of “settlement record.” PO Resp. 15–16. However, Patent Owner does not propose an alternative construction because it “does not believe the invalidity challenges raised against the '887 Patent turn on this construction.” *Id.*

Patent Owner has filed the District Court's claim construction order, in which the District Court adopted Petitioner's construction. Ex. 2011, 2 (District Court Claim Construction Order). Petitioner's construction also is

consistent with the Specification, and our construction in the Final Written Decision for CBM2020-00028 (Paper 33, 13–14). Ex. 1001, 9:18–20 (“to generate the settlement rules that define who will be billed or credited”), 12:17–19 (“RTSMS 106 processes the logs, the billing data, and the state model data and creates a message sequence detail record (MSDR).”), 12:25–26 (“The MS DR represents a billable event record that will be used for revenue settlement purposes.”), 12:56–62. In short, we maintain the construction in the Institution Decision, construing “settlement record” as “billable event record to be used for revenue settlement.” Dec. 19.

B. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, “would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of non-obviousness.² *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

² Neither party presents evidence or arguments regarding objective evidence of non-obviousness in the instant proceeding.

C. Level of Ordinary Skill in the Art

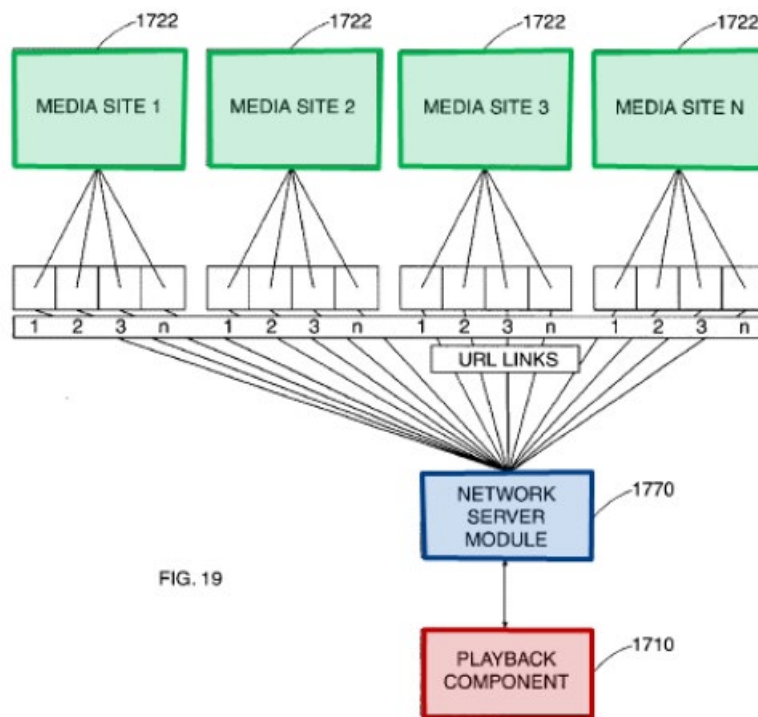
In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quotation marks omitted).

Here, Petitioner asserts that a person of ordinary skill in the art of the ’887 patent would have had “at least a bachelor’s degree in computer science, electrical or computer engineering, or equivalent.” Pet. 8. And, such an artisan also would have had “at least two years of experience in distributed systems, multimedia streaming, and various HTTP-related technologies, or an equivalent amount of relevant work or research experience,” citing to the Declaration of Henry Houh, Ph.D., for support. *Id.* (citing Ex. 1003 ¶¶ 58–61). Patent Owner’s declarant, Mr. Michael Adam, provides a similar assessment, but also testifies that such an artisan, alternatively, would have had “at least five years of work experience and training in the design and development of distributed network systems and/or multimedia streaming.” Ex. 2012 ¶ 28. Neither party points out any meaningful difference between the parties’ assessments. We apply Patent Owner’s assessment on the level of ordinary skill in the art. However, our analysis would be the same under either party’s description.

D. Summary of the Asserted Prior Art References

1. Eyal (Exhibit 1005)

Eyal is titled “Streaming Media Search and Continuous Playback System of Media Resources Located by Multiple Network Addresses.” Ex. 1005, code (54). Eyal discloses “a computer system that enables a continuous streaming media playback from a distribution of sites available over a network such as the Internet.” *Id.* at 1:17–19. Figure 19 of Eyal is reproduced below (color annotations added by Petitioner (Pet. 13)).



Annotated Figure 19 of Eyal above illustrates a system that allows media streaming “from multiple sites on the Internet based on personalized criteria set forth by users.” Ex. 1005, 10:1–3, 32:43–44. User terminal 1710 (red), via network server module 1770 (blue), has access to network media

sites 1722 (green) that provide access to media. *Id.* at 32:43–46. Each of media sites 1722 has one or more links to media web resources, which are represented by URLs 1–N. *Id.* at 32:47–48. Media sites 1722 correspond to different locations on the Internet. *Id.* at 32:54–55.

“The network server receives a request for media playback from the network enabled device, selects multiple addresses from the database, and signal[s] the multiple addresses to the network enabled device.” *Id.* at 2:35–38. After receiving a request for media, a play-list generator creates a play-list that includes a plurality of media links and sends it to the requesting device. *Id.* at 4:47–55, 9:13–21, 27:33–35. Each media link in the play-list locates a media file on the network. *Id.* The play-list may provide instructions to the playback device and include a variety of metadata, such as duration, media URL, source website, media type, clip broadcast quality, and image size for video. *Id.* at 12:37–63, 27:35–37. Other media, including targeted commercials, “may be inserted into the play-lists in various locations between media clips.” *Id.* at 13:1–8.

To playback the requested media, “[t]he user terminal then accesses the URL and loads the web resource[s] associated with that media link into a streaming media playback component on the user terminal.” *Id.* at 27:37–40. A play-list that has a plurality of media links allows the media playback component to play media continuously from numerous sites on a network. *Id.* at 27:47–60.

2. Angles (Exhibit 1045)

Angles discloses a system and method for delivering customized electronic advertisement in an interactive communication system. Ex. 1045, code (57). According to Angles, “[t]he customized advertisements are selected based on consumer profiles and are then integrated with offerings maintained by different content providers.” *Id.* Angles also discloses a feature that “allows the advertisement provider to monitor the number of advertisements viewed by consumers associated with a particular content provider,” so that “the content providers can receive advertising revenue based on the number of consumers who access their websites,” and the “advertisement provider . . . pay[s] the content provider based on the volume of advertisements actually displayed by the content provider.” *Id.* at 4:19–28, 16:30–33.

3. Chang (Exhibit 1009)

Chang discloses a method for efficiently delivering a presentation of web media contents, together with other content sources. Ex. 1009, code (57). In a preferred embodiment, Chang teaches a HotAudio file with metadata specifying frame rate, bit rate, and sequence. *Id.* at 4:11–12, 5:25–9:25, 7:1–18, Table 4, Fig. 2.

4. Madison (Exhibit 1051)

Madison discloses a method and system for uploading, managing and delivering digital content, including streaming media. Ex. 1051, code (57). Figure 1 of Madison is reproduced below.

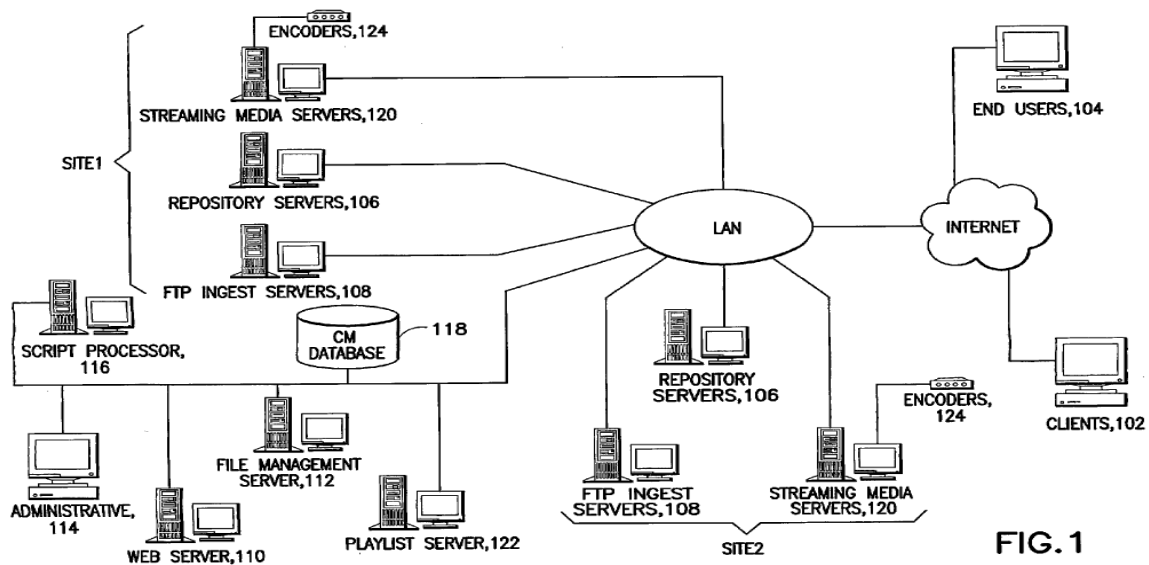


FIG. 1

Figure 1 of Madison above illustrates a system that allows clients 102 to up-load streaming media content, manage the content, and make the content available to end-users 104 via a web site on the Internet. *Id.* ¶ 20. Specifically, clients 102 up-load content to repository servers 106 either directly, via an HTTP up-load, or via FTP ingest servers 108. *Id.* ¶ 22. Once the content is up-loaded, each client 102 may manage its content via a content management web site provided by client-side web server 110. *Id.* The up-loaded content is eventually transferred to streaming media servers 120, where it is available for streaming via the Internet. *Id.* ¶ 25. An end user may make a request for content by clicking on an URL, which identifies media content. *Id.* ¶ 106. The request is directed to playlist server 122, which will execute the “makeplaylist.asp” program and dynamically generate a playlist redirector file. *Id.* ¶ 108. The redirector file comprises a list of URLs for each stream file, including the proper prefix (“mms://”), hostname (“mediaserver.company.com”), and stream filename

("filename.asf"), such as <"mms://mediaserver.company.com/
filename.asf">. *Id.* ¶¶ 109, 110. Using the redirector file, the end user's
media player pulls each identified stream file from media server 120
identified in the redirector file in the order in which it appears in the file. *Id.*
¶ 111.

5. Wolfe (Exhibit 1044)

Wolfe discloses a system and method for delivering programmed
music and targeted advertising messages to Internet based subscribers.
Ex. 1044, code (57). Wolfe also discloses a program that "tallies accounts,
listing the frequency of play and transmission of music . . . to subscribers"
for "calculating (if necessary) royalty fees payable to the owners of the
music" and "preparing billing data for advertisers." *Id.* at 5:26–44.

E. Obviousness over Eyal and Angles

Petitioner asserts that claims 39, 40, 45, 47, 52, 68, 98–101, 103, 111,
and 115–117 are unpatentable under § 103(a) as obvious over Eyal and
Angles, citing Dr. Houh's Declaration for support. Pet. 12–41 (citing
Ex. 1003). Patent Owner argues that Eyal and Angles fail to disclose certain
claim limitations, and that Petitioner fails to articulate a reason to combine
the prior art teachings, citing to the Declaration of Mr. Adams for support.
PO Resp. 33–46, 61–65 (citing Ex. 2012). For the reasons stated below, we
find that Petitioner has demonstrated by a preponderance of the evidence
that claims 39, 40, 45, 47, 52, 68, 98–101, 103, 111, and 115–117 would
have been obvious over Eyal and Angles. We do not find that Patent

Owner's arguments and Mr. Adams's testimony refute Petitioner's showing. Our analysis below focuses on the disputed claim elements.

1. Claims 39, 40, 45, 47, 68, 98–100, 103, 111, and 115–117

a. *“At least one portion of the requested media” and “other portion”*

Claims 39, 45, 68, and 98 require a “computing device” to receive a request for media from a “communication device” that is capable of obtaining “at least one portion of the requested media” from a “resource.” *See, e.g.*, Ex. 1001, 55:20–26. These claims also require identifying “at least one portion of the requested media.” *See, e.g., id.* at 55:36–37. Claim 40 requires “streaming” the requested media to the communication device. *Id.* at 55:58–62. Claim 115 requires the request for media is “a request for video.” *Id.* at 65:28–30. Claim 116 requires the identification of a portion of the requested media to be a URL. *Id.* at 65:31–34. Claim 117 recites “identification of at least one *other portion* of the requested media in the communication.” *Id.* at 65:35–38 (emphasis added).

Petitioner asserts that Eyal in view of Angles discloses these claim elements. Pet. 17–19, 21, 25, 34–35, 40–41. Petitioner avers that Eyal discloses receiving by server modules (collectively, the “computing device”) a request for media (e.g., video) from a user terminal (the “communication device”). *Id.* at 17–18 (citing Ex. 1005, 1:20–25 (“Streaming media available on the Internet include . . . video.”), 1:63–65, 10:17–18, 10:33–38, 11:31–37 (“video,” “movie clips, home movies, movie trailers, of highlights from sporting events”), 11:38–44, 19:30–40). Petitioner points out that Eyal teaches that, in response to the request, the server modules respond with a

play-list containing links to multiple portions of the requested media, and identifying each portion of the requested media as a separate URL in the play-list that is transmitted to the user terminal over the Internet. *Id.* at 20–21, 35, 40–41 (citing Ex. 1005, 10:33–38, 12:30–64 (“metadata information include . . . identification”), 15:37–41 (“A play-list generator module 260 generates a plurality of play-lists based on information in the database management system 245.”), 15:55–58, 20:25–27, 20:30–62, 26:33–42, 27:33–53 (“Each play-list may include one or more media link URLs and metadata.”), 32:62–67; Ex. 1003 ¶¶ 155–159, 283–286). Petitioner also avers that the URLs in Eyal’s play-list include addresses of media sites (“resource”) that facilitate streaming the requested media to the communication device. *Id.* at 21, 25 (citing Ex. 1005, 1:18–19 (“enables a continuous streaming playback from a distribution of sites available over a network such as the Internet”), 12:37–63, 15:55–58, 32:20–34:3, 32:62–65). We agree with Petitioner and, for the reasons given, find that Eyal teaches the aforementioned elements of claims 39, 40, 45, 68, 98, and 115–117.

Patent Owner counters that these claims of the ’887 patent “are directed to a method of streaming requested media in *portions* (i.e., portion-by-portion or more *portions* at a time), *not* the entire media all together.” PO Resp. 39–41; Sur-reply 1–2, 12–13. According to Patent Owner, “[t]he claims and specification of the ’887 Patent distinguish between requested media (e.g., an *entire* movie) and ‘portions’ of requested media (e.g., a portion of a movie),” and “the claims recite receiving a ‘request for media’ (a request for the *full* media).” PO Resp. 39–41 (citing Ex. 2012 ¶¶ 171–

174; Ex. 1011³, 19). Patent Owner argues that Eyal “does not disclose identifying, streaming, or obtaining *portions* of requested media (e.g., a portion of a movie)” because “the Eyal system merely provides links (URLs) to the *full* media (e.g., an *entire* movie).” *Id.* at 40 (citing Ex. 1005, 19:48–59, 20:1–3; Ex. 2012 ¶ 175). Patent Owner also argues that “[n]either Eyal nor Angles disclose[s] the same piece of requested media being streamed in multiple portions,” as recited in claim 117. *Id.* at 46. Patent Owner further argues that Eyal’s search request is not a media request because Eyal’s search request is a search for information that may or may not return any results and the claimed “request for media” is a request for a specific known media item. Sur-reply 12–13.

At the outset, Patent Owner incorrectly assumes that all of the challenged claims require “streaming requested media *in portions*.” PO Resp. 39–41; Ex. 2012 ¶¶ 171–174; Sur-reply 1–2, 12–13. Patent Owner admits that only claim 117 recites “identification of at least one *other portion* of the requested media in the communication.” PO Resp. 40. Through its arguments, Patent Owner implicitly construes the claim term “at least one portion of the requested media” to exclude the entirety of the “requested media” or to require that the “requested media” be broken up into portions. As discussed above, in a preferred embodiment of the ’887 patent, the viewer sends a request for *each media clip* (the “requested media”) to a

³ Citations to Exhibit 1011 refer to the page numbers added by Petitioner at the bottom right corner.

“computing device” and each media clip is received *in its entirety*, not broken up or received one portion at a time, as Patent Owner alleges is required by the claims. Ex. 1001, 13:49–14:2. For the reasons discussed above in Section II.A.1, we decline to adopt Patent Owner’s construction. However, even if we were to apply Patent Owner’s construction, we still would find that Petitioner has shown that Eyal in view of Angles teaches the claim elements at issue for the reasons stated below.

Notably, Patent Owner’s arguments also improperly rest on the premise that the “requested media” is “the entire media all together” (e.g., an entire movie). PO Resp. 39–41; Sur-reply 1–2, 12–13; Ex. 2012 ¶¶ 171–174. The ’887 patent makes clear that the “requested media” may be a single media item or multiple media items (e.g., a program with multiple media items), and that “[m]edia may include one or more *media clips or a part of a media clip*.” Ex. 1001, 3:47–50, 4:10–20, 18:30–32, 19:10–11 (emphasis added). The Specification discloses that the “content owner may create a program having one or more media items” including “*a media clip for a movie and an advertisement*,” and that a “viewer may desire to receive one or more of the media identified in the program.” *Id.* (emphasis added). Hence, the “requested media” may be “a media clip for a movie” or a program having a plurality of media items, not necessarily a single entire piece of media or an entire movie as Patent Owner alleges. Interpreting the “requested media” to require a single entire media item or an entire movie is inconsistent with the Specification.

We also do not agree with Patent Owner that Eyal “does not disclose identifying, streaming, or obtaining *portions* of requested media” and that Eyal’s search request is not a media request. PO Resp. 40; Sur-reply 12–13; Ex. 2012 ¶ 175. Patent Owner fails to recognize that Eyal’s play-list includes links to multiple portions of the requested media. Ex. 1005, 20:25–64, 32:62–67. Eyal discloses delivering portions of the requested media, such as movie clips, movie trailers, highlights from sporting events, music videos, and individual songs of a program. *Id.* at 11:21–37, 13:1–3, 16:6–17 (“a user on user terminal 210 may select to hear Jazz programming” using “the features of a user-interface” and the user may “retrieve additional media clip information”), 30:29–37 (“media clips are played back on the user terminal” “continuously, so that the user’s media experience resembles listening to an album”). Eyal also discloses that “links to streaming media commercials may be inserted into the play-lists in various location between media clips.” *Id.* at 13:1–3. Further, Eyal discloses that the user-interactive features of the user-interface “allow users to submit search requests and other media requests for playback,” such as menu fields 1910–1940 shown in Figure 21 of Eyal, allowing the user to request songs or media clips from a specific artist or record. *Id.* at 36:3–48, Fig. 21. During his cross-examination by Petitioner, Mr. Adams admitted that Eyal’s search request is a media request. Mr. Adams testified that “by making a request for the top jazz hits playlist, . . . the user is making a request for media,” and that “[i]n this context, the playlist has a number of songs on it. And so[,] the totality

of the playlist is all of the songs one after another. And each song is part of that playlist.” Ex. 1081, 82:17–83:8.

For the foregoing reasons, we find that Petitioner has shown that Eyal in view of Angles discloses the aforementioned claim elements of claims 39, 40, 45, 68, 98, and 115–117.

b. “Communication” or information

Claims 39, 45, 68, and 98 require generating a “communication” or information, based on “one or more capabilities of the communication device” and “at least one characteristic associated with a user of the communication device.” *See, e.g.*, Ex. 1001, 55:31–34. Claim 39 also requires generating the information based on at least one program. *Id.* Claim 45 also requires generating the information based on at least one rule. *Id.* at 57:1–12. Claim 99 requires that the user characteristic to be a “user identification.” *Id.* at 63:57–64. Claim 100 requires the user characteristic to be a user profile, preference, or geographic location. *Id.* at 63:65–64:4. Claim 103 requires the one or more capabilities of the communication to be a format or protocol used by the communication device. *Id.* at 64:15–27.

Petitioner asserts that Eyal in view of Angles discloses these claim elements. Pet. 20–23, 27–29, 32–33, 35–37. Petitioner explains that Eyal teaches generating a response that includes a play-list (the claimed “communication” or information) to the user’s request for media based on the play-lists in the media and metadata database that have been “programmatically verified” by the AMVME program to be available for playback by users. *Id.* at 20 (citing Ex. 1005, 15:37–45, 19:21–23, 19:30–

40). Petitioner further explains that Eyal's play-list includes identifications of portions of the requested media, the streaming server, and instructions to obtain the media. *Id.* at 21–23 (citing Ex. 1005, 12:37–63, 13:1–4, 15:37–41, 15:55–58, 19:41–54, 20:9–14, 20:30–39, 27:27–30, 27:53–55).

In addition, Petitioner avers that Eyal teaches generating the play-list in the response based on the terminal's capabilities because Eyal teaches adjusting the URLs in the play-list to specify different protocols based on the communication device's player, and delivery media in formats used by the user terminals (such as RM files for RealNetwork players). *Id.* at 20, 39 (citing Ex. 1005, 13:52–54, 21:35–46 (describing using “HTTP” or “PNM” protocol signals in URLs depending on “the media playback component”), 27:13–20). Petitioner further explains that Eyal teaches generating the play-list in the response based on characteristics associated with user, including a user identification, because the play-list is “personalized for the user” and “generated for preferences and profiles specified by the user” and the play-list may also include “streaming media commercials” that are “targeted to the audience.” *Id.* at 20, 36–37 (citing Ex. 1005, 13:3–4, 31:29–31, 33:9–15, Fig. 17). Petitioner also avers that Eyal teaches using a rule to select the media for inclusion in the play-list. *Id.* at 27–28. We agree with Petitioner's reasoning and find that for the reasons given, that Eyal teaches the aforementioned claim elements of claims 39, 45, 68, 98–100, and 103.

Patent Owner counters that Eyal does not disclose using both (1) “one or more capabilities of the communication device” and (2) “at least one characteristic associated with a user of the communication device.” PO

Resp. 36–38. Patent Owner argues that modifying a protocol is not a capability of the communication device and “Eyal’s discussion of the protocol *in an existing play-list* is not generating a play-list.” *Id.* (citing Ex. 2012 ¶¶ 166–167); Sur-reply 10–12. Patent Owner also argues that “the mere mention of a personalized play list does not disclose any details about what specific information is being personalized.” PO Resp. 37–38. Patent Owner further avers that Petitioner fails to identify any rule that is used to generate the response, as required by claim 45. *Id.* at 44.

Patent Owner’s arguments are conclusory, not support by Eyal. Eyal discloses generating a response that includes a play-list based on a capability of a user device because the URLs within the play-list are modified based on the type of player employed by the user. Ex. 1005, 21:35–46 (describing using “HTTP” or “PNM” protocol signals in the URL depending on “the media playback component, *particular if the playback component 211 is a RealNetworks PlayerTM*” (emphasis added)); *see also id.* at 13:52–54 (“The multimedia capability is manifested in the availability of a streaming multimedia playback software and or hardware component.”). Eyal makes clear that “[t]his adjustment prevents playback component 211 [of the user’s device] from failing.” *Id.* at 21:35–45. The adjustment is part of the generating step because the playlist in the response for that particular user’s device is not completed until the correct protocol information is provided.

Moreover, during cross-examination, Mr. Adams was asked that “in the context of Eyal, if a user using an Apple QuickTime media playback component used Eyal to generate and return a playlist, would Eyal generate

that playlist without any consideration of the fact that the user was using Apple QuickTime?” Ex. 1081, 77:8–13. In response, Mr. Adams admitted that “part of the function of Eyal was to look . . . behind those links and *determine its playability*,” and “part of that process would allow Eyal to discover if it was actually an Apple QuickTime asset or not,” because “Eyal is trying to make sure that the user experience is good, and that means *passing a playlist with assets that will actually be played to the appropriate media player*.” *Id.* at 77:15–78:3 (emphases added).

In addition, Eyal’s play-list also is customized based on characteristics of the user. Eyal teaches that its play-list in the response is “personalized for the user of the end terminal” and “generated for preferences and profiles specified by the user,” including “streaming media commercials.” Ex. 1005, 13:1–8, 33:9–15, 31:29–31, Fig. 17. Mr. Adams admitted that “the system of Eyal has some understanding of a user profile or preference” and that Eyal’s “playlist may be personalized for the user of the end terminal,” “[f]or example, a playlist may be generated for preferences and profiles specified by the user of the terminal,” “even if they made exactly the same search request.” Ex. 1083, 34:18–35:8.

Furthermore, Eyal teaches generating a play-list based on a rule, as required by claim 45. Eyal teaches that the commercials inserted into the play-lists “are targeted to the audience likely to listen to the media available on the play-list.” Ex. 1005, 13:1–5. Dr. Houh testifies that “such targeting would have been accomplished by a respective rule.” Ex. 1003 ¶ 196.

In short, Eyal’s play-list that is generated based on a rule for selecting media for inclusion in the play-list.

For the foregoing reasons, we find Petitioner has shown that Eyal teaches the above-identified elements of claims 39, 45, 68, 98–100, and 103.

c. “Instructions”

Claims 39, 45, 68, and 98 require “instructions . . . to obtain at least one portion of the requested media” and “instructions as to how the at least one portion of the requested media is to be streamed.” *See, e.g.*, Ex. 1001, 55:23–26. Claim 111 requires “the one or more instructions” to include “instructions relating to at least one of a media format, a media language, a media sequence, and an advertisement insertion.” *Id.* at 65:5–11.

Petitioner relies upon Eyal’s metadata related to a media format, media sequence, and advertisement insertion, the types of instructions recited in claim 111, to teach the claimed “instructions.” Pet. 17–19, 22–23. Petitioner explains that Eyal’s metadata in the play-list of the response may instruct the user’s device regarding how to obtain the media—e.g., duration, media URL, source web site, media type, clip broadcast quality, and image size for videos. *Id.* at 22 (citing Ex. 1005, 12:43–63, 27:33–37). Petitioner also explains that Eyal’s play-list includes instructions relating to obtaining media from the URLs in a particular sequence and instructions for obtaining advertisement media. *Id.* at 22–23 (citing Ex. 1005, 13:1–4, 27:47–51, 27:53–55; Ex. 1003 ¶¶ 170–174). We agree with Petitioner’s reasoning and find that for the reasons given, that Eyal discloses the claimed “instructions.”

Patent Owner advances two main arguments. PO Resp. 34–36. First, Patent Owner argues that the mere order of URLs, without more, is not separate instructions from the URL. *Id.* However, Patent Owner’s argument improperly rests on the premise that instructions cannot be part of the URL listing. The Federal Circuit has explained that a claim element should not be construed narrowly to require a separate and distinct component, when the claim or specification indicates that the claim element need not be a separate component, or the specification suggests that a single component can function as both elements. *Linear Tech. Corp. v. ITC*, 566 F.3d 1049, 1054–56 (Fed. Cir. 2009); *see also Powell v. The Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1231–32 (Fed. Cir. 2011) (stating that because “the specification teaches that the cutting box may also function as a ‘dust collection structure’ to collect sawdust and wood chips generated during the wood cutting process, . . . it does not suggest that the claim terms ‘cutting box’ and ‘dust collection structure’ require separate structures”); *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1303 (Fed. Cir. 2011) (“The claims and the specifications indicate that the ‘needle holder’ and ‘retainer member’ need not be separately molded pieces.”); *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1310 (Fed. Cir. 2005) (noting that the asserted claim language did not support a limitation requiring that the claimed “RF receiver” and “destination processor” be separate and distinct).

Here, in the context of the ’887 patent, the claims do not require the instructions to be separate from the URLs. The ’887 patent incorporates by reference U.S. Provisional Application No. 60/263,044 (“the ’044

application,” Ex. 1011), and the ’044 application discloses that “there are many possible ways of formatting the URLs,” and that a URL may include instructions and identifications. Ex. 1011, 18. Indeed, the ’887 patent also makes clear that a URL may include other claim elements, such as the identification of the requested media and the reservation identification. Ex. 1001, 8:61–64, 10:28–33, 24:45–47. Mr. Adams admitted that formatting the instructions “as part of the URL string doesn’t actually . . . change[] anything . . . you’re still transmitting the instructions,” and that “[i]t’s a formatting difference, quite frankly” and “[s]o I think actually both satisfy the claims in my opinion.” Ex. 1081, 180:22–181:5. When arguing that the prior-file CIP applications and the 1/13/01 draft application provide written description support for the challenged claims, Patent Owner alleges that the presentation ID in a URL is the claimed “instruction.” PO Resp. 31–33; Ex. 1011, 18 (providing an example of a URL that includes the server type, reservation identification, server name, order identification, presentation identification, and media identification—“rtcp://servertype.reservationid.nrpname.net/orderid/presentationid/mediaid”). Moreover, Eyal also discloses instructions related a media format and advertisement insertion that are not part of the URLs for the requested media.

Second, Patent Owner argues that Eyal’s metadata relate to “*how* the media is *displayed* on the user device,” not for obtaining the media. PO Resp. 35–36. As support, Patent Owner contends that Petitioner and Dr. Houh admit that “instructions about *how* a media play presents media are

not instructions enabling communication device to *obtain* media.” *Id.*
(citing Pet. 7–8; Ex. 2019, 290:12–291:8; Ex. 2012 ¶ 164).

Patent Owner’s arguments are unavailing. Claim 111 explicitly refers to a media format, media sequence, and advertisement insertion, as types of instructions to obtain the requested media. Ex. 1001, 65:5–11. Patent Owner implicitly construes the term “instructions” to exclude those instructions recited in claim 111. As discussed above in Section II.A.2, we decline to adopt Patent Owner’s construction and we construe the claimed “instructions” to encompass the types of instructions recited in claim 111. Moreover, Mr. Adams admitted that sequencing instructions are related to how the media is obtained because “[i]t would be normal to obtain the portions or media clips in the order in which they’re going to be played.” Ex. 1081, 131:14–19. Therefore, we agree with Petitioner that Eyal discloses the claimed “instructions,” because Eyal’s play-list include instructions related to a media format, media sequence, and advertisement insertion, the types of instructions recited in claim 111. Ex. 1005, 12:43–63, 13:1–4, 27:33–55, 27:47–51, 27:53–55.

Patent Owner’s reliance on Petitioner’s statement and Dr. Houh’s testimony is misplaced because they are directed to the ’044 application, not Eyal. Notably, Petitioner’s statement is related to the ’044 application’s disclosure regarding “instructions in the *presentation script* ‘about how to dynamically *change* the content.” As Petitioner explains, “these instructions differ from those claimed because the presentation script stored in the reservation cache and not transmitted to the user” and rather than “enable the

communication device to *obtain* the requested media and other media, they are ‘instructions’ [to] *change* the content.” Pet. 8 (citing Ex. 1011, 15, 26). Similarly, Dr. Houh’s testimony was answering Patent Owner’s questions regarding the ’044 application related to the “instructions about how the player should present the media to the viewer,” not Eyal’s instructions. Ex. 2019, 289:20–291:10. Thus, Petitioner’s statement and Dr. Houh’s testimony do not support Patent Owner’s argument that Eyal does not disclose the claimed “instructions.”

For the foregoing reasons, we find Petitioner has shown that Eyal teaches the “instructions” of claims 39, 45, 68, 98, and 111.

d. “Revenue sharing rule” and “settlement record”

Claims 39, 45, 68, and 98 require a “revenue sharing rule” for sharing between two parties a percentage of revenue generated by streaming the requested media, and a “settlement record” that reflects a sharing of the percentage of revenue. *See, e.g.*, Ex. 1001, 55:49–57. Claims 45, 68, and 98 also requires that the requested media is associated with the revenue sharing rule. *Id.* at 56:55–58. Claim 47 requires the revenue sharing rule to be “an advertising revenue sharing rule.” *Id.* at 57:26–27. As discussed above in Section II.A.3, we construe the term “settlement record” as “billable event record to be used for revenue settlement.”

Petitioner asserts that Eyal in view of Angles discloses these claim elements. Pet. 23–25, 26, 30. Petitioner explains that Eyal teaches “links to streaming media commercials may be inserted into the play-lists in various locations between media clips.” *Id.* at 23 (citing Ex. 1005, 13:1–4).

Petitioner also argues that Angles teaches an advertising module that implements a revenue sharing rule between content providers, Internet service providers and consumers, and that the advertising module uses information to distribute the revenue from advertisements “as a bonus to the content providers and consumers.” *Id.* at 23–24 (citing Ex. 1045, 15:25–43, 16:20–56 (“advertisement provider . . . pay[s] the content provider based on the volume of advertisements actually displayed by the content provider”), 20:39–49). Petitioner contends that Angles’s advertising module accesses an accounting database that records billable events (advertisements) for revenue settlement purposes (debiting and crediting the correct accounts) based on the revenue sharing rule. *Id.* at 24–25 (citing Ex. 1045, 16:10–56 (“the accounting database 72 maintains a record of which advertisements have been viewed, advertisers can be billed based on actual delivery of the advertisements to pertinent consumers”), 21:19–36 (“[A]dvertising module 62 accesses the accounting database 72 and debits the appropriate advertiser account, credits the content provider account and credits the appropriate consumer account.”). Dr. Houh testifies a relevant artisan would have been motivated to combine Angles’s advertising module with Eyal’s system “to track delivery of advertisements and more efficiently determine what payments and credits are needed for revenue derived from the delivery of those advertisements, and to free the content providers from the overhead of having to sell ads.” Ex. 1003 ¶¶ 177–180. We agree with Petitioner’s reasoning and find that for the reasons given, that Eyal in view of Angles teaches the aforementioned elements of claims 39, 45, 47, 68, and 98.

Patent Owner advances several arguments. First, Patent Owner argues that “there is no motivation to combine the teaching of Angles and Eyal.” PO Resp. 41–42 (citing Ex. 2012 ¶¶ 179–180). We find this argument unavailing for the reasons stated below in Section II.E.2.

Second, Patent Owner argues that Eyal does not disclose any revenue sharing and Angles does not disclose any sharing revenue that is “generated by streaming” media because Angles discloses sharing revenue based on advertisements placed on the face of a webpage. *Id.* at 42–43.

Patent Owner arguments are unavailing. One cannot show nonobviousness by attacking each reference individually where the ground of unpatentability is based on combinations of references, as here. *In re Keller*, 642 F.2d 413, 426 (CCPA 1981). Instead, the test for obviousness is whether the references, taken as a whole, would have suggested the claimed subject matter to a person of ordinary skill in the art at the time the invention was made. *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Third, Patent Owner argues that neither Eyal nor Angles discloses that the requested media is associated with the revenue sharing rule for sharing revenue generated by streaming, as required by claims 45, 68, and 98. Patent Owner’s argument is unavailing.

As discussed above, Eyal teaches that, in response to a request for media, the server modules generate a play-list containing links to multiple portions of the requested media, identifying portions of the requested media as separate URLs. Ex. 1005, 12:37–63, 15:37–41, 20:25–64, 27:33–53, 32:62–67. Eyal’s play-list is “personalized for the user” and “generated for

preferences and profiles specified by the user.” *Id.* at 33:9–15. Eyal discloses that “links to streaming media commercials may be inserted into the play-lists in various location between media clips” and “[t]hese commercials are targeted to the audience likely to listen to the media available on the play-list.” *Id.* at 13:1–5. Angles also teaches targeted advertising. Ex. 1045, code (57). When a user submits a request for media in the combination of Eyal and Angles, the play-list would include media links to portions of the requested media and to a targeted advertisement. By definition, the requested media would be associated with that advertisement. By associating the requested media with the advertisement, the requested media also would be associated with the revenue sharing rule taught in Angles for that advertisement. *Id.* at 20:39–49 (advertising module uses information to “distribute the revenue” from advertisements “as a bonus to the content providers and consumer”); 16:30–33 (“advertisement provider . . . pay[s] the content provider based on the volume of advertisements actually displayed by the content provider”). Accordingly, we find Petitioner has shown that Eyal in view of Angles teaches that the requested media is associated with the revenue sharing rule for sharing revenue generated by streaming, as required by claims 45, 68, and 98

Finally, Patent Owner argues for the first time in its Sur-reply that the revenue from advertisements in Eyal and Angles is not a revenue generated by streaming the requested media, and Angles does not disclose a “revenue sharing rule.” Sur-reply 14. Patent Owner’s arguments are improper because no new arguments are permitted in a sur-reply. *See* 37 C.F.R.

§ 42.23(b); Consolidated Trial Practice Guide⁴ at 74 (“Trial Practice Guide”); *see also* 84 Fed. Reg. 64,280 (Nov. 21, 2019).

In any event, Patent Owner’s arguments are unavailing. Claim 47 depends from claim 45, and recites that “the revenue sharing rule is identified as an *advertising revenue sharing rule*.” Ex. 1001, 57:26–28 (emphasis added). Patent Owner implicitly construes the term “revenue sharing rule” as recited in the independent claims 39, 45, 68, and 98 to exclude the type of revenue sharing rule recited in claim 47. We decline to adopt Patent Owner’s construction because “[a]n independent claim impliedly embraces more subject matter than its narrower dependent claim.” *Intamin*, 483 F.3d at 1335; *see also Baxalta*, 972 F.3d at 1346. We construe the claim term “revenue sharing rule,” as recited in the independent claims 39, 45, 68, and 98, to encompass “an advertising revenue sharing rule,” the type of revenue sharing rule recited in dependent claim 47.

In addition, as discussed above, Eyal’s play-list includes links to portions of the requested media. Ex. 1005, 20:25–64, 32:62–67. Eyal also teaches that “links to streaming media commercials may be inserted into the play-lists in various locations between media clips,” and “[t]hese commercials are targeted to the audience likely to listen to the media available on the play-list.” *Id.* at 13:1–5. Patent Owner fails to recognize that the advertisements are streamed with the requested media. Any revenue from those advertisements would be revenue generated by streaming the

⁴ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

requested media. Moreover, Angles discloses a revenue sharing rule because it teaches that “advertisement provider . . . pay[s] the content provider based on the volume of advertisements *actually displayed* by the content provider.” Ex. 1045, 16:20–56 (“[A]dvertisers can be billed based on *actual delivery* of the advertisements to pertinent consumers”) (emphases added).

Thus, we find that Petitioner has shown that Eyal in view of Angles discloses a “revenue sharing rule,” an “advertising revenue sharing rule,” and a “settlement record,” as required by claims 39, 45, 47, 68, and 98.

2. Reasons to combine the teachings of Eyal and Angles

As discussed above, Dr. Houh testifies a relevant artisan would have been motivated to combine Angles’s advertising module with Eyal’s system “to track delivery of advertisements and more efficiently determine what payments and credits are needed for revenue derived from the delivery of those advertisements, and to free the content providers from the overhead of having to sell ads.” Ex. 1003 ¶¶ 177–180. Dr. Houh also testifies that such an artisan would have been motivated to use Angles’s teachings of revenue sharing and settlement records with Eyal’s system because “Eyal’s general desire to utilize targeted advertising would be better achieved with the detailed mechanisms for both tailored advertising, tracking, and charging taught by Angles.” *Id.* ¶¶ 147–152. We find that Petitioner has articulated a sufficient reason to combine the teachings of Eyal and Angles.

Patent Owner advances two main arguments. First, Patent Owner counters that a relevant artisan would not have been motivated to combine

Eyal and Angles because they disclose “*fundamentally different systems*” and “applying the principles from Angle would eliminate Eyal’s benefit of providing access to thousands of third-party websites and would instead lock Eyal into a single media site.” PO Resp. 61–65 (citing Ex. 2012 ¶¶ 141–150). According to Patent Owner, “Eyal discusses inserting advertisements *between media streams*” in a search engine, whereas Angles discloses “a system for simply inserting advertisements into *the face of a webpage*”; content in Eyal is freely available from third-party websites, whereas Angles’s content is only available to registered user; and Angles uses a different method for routing media requests than Eyal, including what behavior is tracked. *Id.* Patent Owner avers that Eyal does not disclose generating revenue from the advertisements, and thus a relevant artisan would have no reason to look to Angles’s disclosure of revenue sharing from advertisements. *Id.*

Patent Owner arguments are unavailing. Both Eyal and Angles disclose targeted advertisements based on the user’s profile or preferences. Whether Eyal teaches generating revenue for the service of having targeted advertisements in streaming media is immaterial to the obviousness inquiry because Angles teaches generating revenue, revenue sharing, and settlement records related to the targeted advertisements. One cannot show nonobviousness by attacking references individually where the grounds of unpatentability are based on combinations of references. *Keller*, 642 F.2d at 426. Instead, the test for obviousness is whether the references, taken as a whole, would have suggested the claimed subject matter to a person of

ordinary skill in the art at the time the invention was made. *See Merck*, 800 F.2d at 1097.

In addition, “[i]t is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.” *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012); *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc) (noting that the criterion for obviousness is not whether the references can be combined physically, but whether the claimed invention is rendered obvious by the teachings of the prior art as a whole). In that regard, one with ordinary skill in the art is not compelled to follow blindly the teaching of one prior art reference over the other without the exercise of independent judgment. *Lear Siegler, Inc. v. Aeroquip Corp.*, 733 F.2d 881, 889 (Fed. Cir. 1984). The Federal Circuit repeatedly has explained that the inquiry into the existence of a motivation to combine is a flexible one and a person of ordinary skill in the art is a person of ordinary creativity with common sense, common wisdom, and common knowledge. *See Fleming v. Cirrus Design Corp.*, No. 21–1561, 2022 WL 710549, at *6 (Fed. Cir. 2022) (citing *Randall*, 733 F.3d at 1362; *KSR*, 550 U.S. at 421); *see also KSR*, 550 U.S. at 420–21 (A relevant artisan is “a person of ordinary creativity, not an automaton” and “in many cases . . . will be able to fit the teachings of multiple patents together like pieces of a puzzle.”). Moreover, the Federal Circuit has recognized that an obviousness showing “does not require that a particular combination must be the preferred, or the most desirable, combination described in the prior art in order to provide motivation for the

current invention.” *Novartis Pharms. Corp. v. West-Ward Pharms. Int’l Ltd.*, 923 F.3d 1051, 1059 (Fed. Cir. 2019).

Here, when asked “what is the point of having commercials in streaming media” during cross-examination, Mr. Adams admitted that “[t]here are a number of different reasons why you might want to include commercials,” such as “to *generate revenue for the service.*” Ex. 1083, 40:10–18 (emphasis added). Dr. Houh testifies that a relevant artisan would have been motivated to incorporate Angles’s revenue sharing and settlement record teachings in Eyal’s system. Ex. 1003 ¶¶ 147–152, 177–184, 217–221. We agree with and credit Dr. Houh’s testimony that such an artisan would have recognized the benefits of applying Angles’s revenue sharing and settlement record teachings to Eyal’s system—e.g., increased effectiveness of advertisements and increased efficiency for determining what payments and credits are needed for revenue derived from the delivery of those advertisements. *Id.* “[W]hen a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.” *KSR*, 550 U.S. at 418 (quoting *Sakraid v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)).

Second, Patent Owner argues that “Eyal teaches away from the approach for content distribution taken by Angles.” PO Resp. 63. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the

path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Here, nothing in Eyal discourages a relevant artisan from implement a revenue sharing rule or a settlement record. Indeed, Patent Owner admits that Eyal is silent as to these teachings. PO Resp. 62. The “mere disclosure of alternative designs does not teach away. *In re Fulton*, 391 F.3d 1195, 1201. Thus, Patent Owner’s assertion of teaching away is unavailing.

For the foregoing reasons, we find that Petitioner articulated an adequate reason to combine the teachings of Eyal and Angles.

3. Claims 52 and 101

Petitioner has accounted for the limitations recited in each of the remaining dependent claims—claims 52 and 101. Pet. 31, 38. As to claim 52 that requires the “rule” to be a “service rule,” “storage rule,” “collection rule,” or “viewing rule,” Petitioner asserts that Angles teaches a “service rule” identifying how a media viewing should be paid (i.e., through advertising revenue) and a “collection rule” identifying an entity collecting a payment for services rendered, including at least two entities collecting payment for services (i.e., content providers and Internet providers). *Id.* at 31 (citing Ex. 1045, 16:28–56, 20:39–49; Ex. 1003 ¶¶ 220–221).

For claim 101 that requires generating the communication comprising a “unique identifier” to enable the requested media to be streamed, Petitioner explains that each of the URL in Eyal’s play-lists is a unique identifier for a media file that is used by the communication device to stream the requested media. *Id.* at 38 (citing Ex. 1005, 19:47–51). Petitioner also explains that

Eyal's URLs contain metadata like identification and description. *Id.* (citing Ex. 1005, 12:28–67). Petitioner asserts that a relevant artisan would have understood that the metadata, included in Eyal's URLs, uniquely identifies the linked media. *Id.* (citing Ex. 1003 ¶¶ 273–274).

Based on the evidence of record, we find that Petitioner has shown that claims 52 and 101 would have been obvious over Eyal and Angles.

For these claims, Patent Owner relies upon the same arguments presented for claims 39, 45, 68, and 98. PO Resp. 44. We find those arguments unavailing for the reasons stated above in Section II.E.1–2.

For claim 101, Patent Owner also argues that Eyal's URLs and metadata are not the claimed “unique identifier” because Petitioner already relies upon the URLs to disclose resource identification and the metadata to disclose identification of the requested media. *Id.* at 45.

Patent Owner's argument is misplaced as it incorrectly assumes that a URL containing metadata cannot be a “unique identifier” while also being an identification for other things. The claim does not require the unique identifier to be separate from the URLs. As discussed above in Section II.E.1.c, the '887 patent discloses that “there are many possible ways of formatting the URLs,” and that a URL may include instructions and several identifications, such as the identification of the requested media, the reservation identification, and order identification. Ex. 1001, 8:61–64, 10:28–33, 24:45–47; Ex. 1011, 18; *see also* Ex. 1081, 180:22–181:5. Moreover, Patent Owner does not dispute that Eyal's URLs and metadata include a unique identifier for use by the communication device to enable

the requested media to be streamed. PO Resp. 45. As Petitioner points out, Eyal discloses that each URL “provides a direct access to a web resource containing media” and contains identification metadata. Pet. 38 (citing Ex. 1005, 12:28–67, 19:47–51). Dr. Houh testifies that because Eyal’s URL specifies a particular host, a directory path on that host, and a file within the specific directory on that host, an ordinarily skilled artisan would have recognized that “the URL is unique, that is, the specific file in the specific directory on a specific host referenced cannot be referenced by using a different host, directory, or filename.” Ex. 1003 ¶ 273. We credit Dr. Houh’s testimony and agree with Dr. Houh that such an artisan would have understood that “this metadata, included in Eyal’s URLs, uniquely identifies the linked media.” *Id.*

For the foregoing reasons, we find that Eyal in view of Angles would have rendered claim 101 obvious. In sum, we find that Petitioner has shown that claims 52 and 101 would have been obvious over Eyal and Angles.

4. Conclusion on Obviousness over Eyal and Angles

For the foregoing reasons, we find that Petitioner has demonstrated by a preponderance of the evidence that claims 39, 40, 45, 47, 52, 68, 98–101, 103, 111, 115–117 are unpatentable under § 103(a) as obvious over the combination of Eyal and Angles.

F. Obviousness over Eyal, Angles, and Chang

Petitioner asserts that claim 105 is unpatentable under § 103(a) as obvious over Eyal, Angles, and Chang, citing Dr. Houh’s Declaration for

support. Pet. 41–45 (citing Ex. 1003). Claim 105 depends from claim 98 and further requires “generating and transmitting the communication based on *one or more other rules* associated with the requested media that specify at least one of a frame rate, a bit rate, a sequence associated with the requested media, and a format associated with the requested media.”

Ex. 1001, 64:35–40 (emphasis added).

Petitioner asserts that “Eyal teaches that the URLs in the play-list are generated according to rules specifying the format associated with the requested media, such as HTTP or PNM protocol for files with RM format or RTSP for files having RAM format.” Pet. 44 (citing Ex. 1005, 21:35–46). Petitioner also notes that Eyal’s play-list are generated based on sequence. *Id.* (citing Ex. 1005, 27:47–60).

Alternatively, Petitioner asserts that “[i]f Claim 105 requires a generating and transmitting the communication also based on rules specifying frame rate, bit rate, and sequence, Chang’s ‘HotAudio File’ teaches the remaining rules” because the metadata in Chang’s HotAudio file specifies frame rate, bit rate, and sequence. *Id.* (citing Ex. 1009, 5:25–40, 6:17–44, 7:1–18, 8:53–55, 11:17–33). Dr. Houh testifies that a relevant artisan would have been motivated to incorporate Chang’s teachings of including metadata specifying frame rate, bit rate, and sequence in Eyal’s communication because Chang’s HotAudio file gives additional control to the system to ensure that play-lists were compatible with playback equipment, optimizing the equipment’s performance. Ex. 1003 ¶¶ 287–290.

We agree with Petitioner’s reasoning and find that for the reasons given, that each of the asserted combinations—(1) Eyal in view of Angles, and (2) Eyal in view of Angles and Chang—teaches the aforementioned element of claim 105. We also find that Petitioner has articulated an adequate reason to combine the teachings of Chang with Eyal and Angles.

Patent Owner advances several arguments. First, Patent Owner argues that Eyal does not teach generating its play-list based on rules. Sur-reply 16. Patent Owner’s argument is unavailing. As Dr. Houh testifies (Ex. 1003 ¶ 291), Eyal discloses generating the URLs in the play-list (the “communication”) according to rules specifying the format associated with the requested media, such as HTTP or PNM protocol for files with RM format or RTSP for files having RAM format. Ex. 1005, 21:35–46 (“Each URL signaled from web server module 270 has a network protocol . . . types of protocols include ‘HTTP’ protocol, ‘PNM’ protocol (RealNetworks, having RM extensions)”). Eyal’s play-lists also are generated based on sequence. *Id.* at 27:47–60 (“The media sites may be provided by play-lists which that are made accessible to the media playback component. The sequence for automatically and continuously playing back media may be repeated for each media link included in the play-list”). Based on the evidence before us, we find Eyal in view of Angles discloses “one or more other rules associated with the requested media that specify . . . a sequence associated with the requested media, and a format associated with the requested media,” as required by claim 105.

Second, Patent Owner argues that “Chang does not disclose a communication sent to the end user that is generated *based on rules* that specify frame rate, bit rate or sequence,” because “Chang merely discloses that frame rate, bit rate and sequence are *included* in a HotAudio file.” PO Resp. 46–48.

At the outset, because we find that Petitioner has shown sufficiently that Eyal in view of Angles discloses “one or more rules” as required by claim 105, it is not necessary for Petitioner to show that claim 105 is also obvious over Eyal in view of Angles and Chang.

In any event, we would have found Patent Owner’s argument regarding Chang unavailing. Patent Owner’s argument improperly attacks Chang individually. One cannot show nonobviousness by attacking references individually where the grounds of unpatentability are based on combinations of references. *Keller*, 642 F.2d at 426. Instead, the test for obviousness is whether the references, taken as a whole, would have suggested the claimed subject matter to a person of ordinary skill in the art at the time the invention was made. *See Merck*, 800 F.2d at 1097.

Finally, Patent Owner argues that a relevant artisan would not have combine Chang with Eyal and Angles because they disclose “very different elements.” PO Resp. 65 (citing Ex. 2012 ¶ 151). According to Patent Owner, only Eyal refers to playlists and concerns with streaming a single media file, whereas Chang focuses on synchronizing a number of separate streams delivered from different sources to produce a multimedia presentation for a user. *Id.*

Again, because we find that Petitioner has shown sufficiently that Eyal in view of Angles discloses “one or more rules” as required by claim 105, it is not necessary for Petitioner to show that claim 105 is obvious over Eyal in view of Angles and Chang. In any event, we would have found Patent Owner’s argument regarding the motivation to combine Chang’s teachings with Eyal and Angles unavailing. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.” *Keller*, 642 F.2d at 425. “Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *Id.*

In addition, whether Chang teaches a playlist is immaterial to the obviousness inquiry because it is undisputed that Eyal teaches generating a play-list that contains media links and metadata in response to the user’s request for media. As discussed above, Dr. Houh testifies that a relevant artisan would have been motivated to incorporate Chang’s teachings of including metadata specifying frame rate, bit rate, and sequence in Eyal’s communication because Chang’s HotAudio file gives additional control to the system to ensure that play-lists were compatible with playback equipment, optimizing the equipment’s performance. Ex. 1003 ¶¶ 287–290. Dr. Houh also testifies that Chang teaches, for example, that “bitrate is important because ‘if the data rate of the incoming data is not fast enough, the player pauses when the data in its buffer is depleted, rebuffers with more data, and then resumes play.’” *Id.* (quoting Ex. 1009, 2:46–55). Therefore,

we find that Petitioner has articulated an adequate reason to combine the teachings of Chang with Eyal and Angles.

For the foregoing reasons, we find that Petitioner has shown by a preponderance of the evidence that claim 105 would have been obvious over Eyal in view of Angles, and over Eyal in view of Angles and Chang.

G. Obviousness over Madison and Wolfe

Petitioner asserts that claims 39, 45, 52, 68, 98–101, 103, 105, 111, 115, and 117 are unpatentable under § 103(a) as obvious over Madison and Wolfe. Pet. 45–71. Patent Owner counters that Madison is not prior art. PO Resp. 26–33. Patent Owner also argues that the combination does not teach certain claim limitations, and that there is no motivation to combine Madison with Wolfe. *Id.* at 48–61, 65–67. For the reasons stated below, we find that Petitioner has demonstrated by a preponderance of the evidence that claims 39, 45, 52, 68, 98–101, 103, 105, 111, 115, and 117 would have been obvious over Madison and Wolfe.

1. Madison’s priority date

Madison claims priority to U.S. Provisional Application 60/263,058 (“the ’058 application,” Ex. 1052) filed on January 18, 2001. Ex. 1051, code (60). “A reference patent is only entitled to claim the benefit of the filing date of its provisional application if the disclosure of the provisional application provided support for the claims in the reference patent in compliance with § 112 ¶ 1.” *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1381 (Fed. Cir. 2015). Petitioner shows that Madison’s

claim 1 is supported by the '058 application by providing a claim chart mapping the limitations of Madison's claim 1 to the '058 application.

Pet. 47–48. Petitioner also shows that the '058 application provides support for all citations to Madison relied upon by Petitioner. *Id.* at 49–50. Patent Owner does not dispute Petitioner's showing, but argues that the challenged claims of the '887 patent are entitled to a priority date of January 13, 2001.

Based on the evidence before us, we find that Madison's claim 1 is supported by the '058 application, and the '058 application provides sufficient support for the portions of Madison relied upon by Petitioner. Therefore, Petitioner has shown that Madison is entitled to the priority date of January 18, 2001. *Id.* at 47–50; Ex. 1003 ¶¶ 140–141; Exs. 1051, 1052. For the reasons discussed below, we find that Patent Owner fails to show that the challenged claims of the '887 patent are entitled to a priority date earlier than of January 18, 2002, and thus, Madison is prior art against the challenged claims of the '887 patent.

2. Priority date of the challenged claims

Petitioner asserts that the claims of the '887 patent are entitled to a priority date no earlier than January 18, 2002. Pet. 6–8. The '887 patent claims priority to U.S. Application No. 11/680,407 (“the '407 application”), which is a divisional application of U.S. Application No. 10/051,406 (“the '406 application,” Ex. 1012), which is a continuation-in-part (“CIP”) application of U.S. Application No. 09/838,993 (“the '993 application,” Ex. 1010), which is a CIP application of U.S. Patent Application No.

09/766,519 (“the ’519 application”). The ’887 patent also claims priority to the ’044 application through the ’407 application and the ’406 application.

a. Principles of Law

“It is elementary patent law that a patent application is entitled to the benefit of the filing date of an earlier filed application only if the disclosure of the earlier application provides support for the claims of the later application, as required by 35 U.S.C. § 112.” *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306 (Fed. Cir. 2008); *New Railhead Mfg., LLC v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1294 (Fed. Cir. 2002); *Lucent Techs., Inc. v. Gateway, Inc.*, 543 F.3d 710, 718 (Fed. Cir. 2008) (“Patent claims are awarded priority on a claim-by-claim basis based on the disclosure in the priority applications.”). The test for determining compliance with the written description requirement under § 112 ¶ 1 is whether the original disclosure of the earlier-filed application reasonably would have conveyed to one with ordinary skill in the art that the inventor had possession the claimed subject matter at the time of the earlier-filed application. *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc).

b. The ’993 application, the ’519 application, and the draft application

Each of claims 39, 45, 68, and 98 requires “one *communication device capable of executing instructions* received from the at least one computing device *to obtain at least one portion of the requested media* using at least one resource other than the at least one computing device,” and “one or more *instructions as to how the at least one portion of the requested media*

is to be streamed to the communication device.” *See, e.g.*, Ex. 1001, 55:22–26, 39–42 (emphases added). By virtue of their dependencies, all other challenged claims also require these “instructions” claim elements.

It is undisputed that the ’993 application and the ’519 application have the same disclosure. Petitioner argues that the ’993 application does not disclose the “instructions” claim elements because it merely describes a list of named media references, such as a URL, or other media items that are to be streamed to the viewer. Pet. 6–7 (citing Ex. 1010 ¶¶ 52–53).

Patent Owner counters that the ’887 patent has priority at least as early as January 13, 2001. PO Resp. 26–33. Patent Owner proffers a draft patent application that was allegedly prepared no later than January 13, 2001 (“the draft application,” Ex. 2016), to establish conception. *Id.* According to Patent Owner, one of the inventors, Don Bate, exercised diligence from the time of conception until the constructive reduction to practice six days later by filing the ’519 application. *Id.* (citing Ex. 2013 ¶¶ 9–10). Patent Owner avers that the ’519 application, the ’993 application⁵, and the draft application each provide support for the challenged claims. *Id.*

In particular, Patent Owner relies upon the “presentation identification” disclosed in these applications to provide support for the claimed “instructions” because they disclose that “the RTSMS 106 transmits to the

⁵ Patent Owner relies upon U.S. Patent No. 7,054,949 (“the ’949 patent”) that issued from the ’993 application. We assume that there are no meaningful differences between the original disclosure of the ’993 application and the ’949 patent for purposes of this Decision.

viewer 116 the *play list with each entry on the play list having the host name of the NRP, the reservation number, and the presentation identification.*” *Id.*; Ex. 2012 ¶¶ 136–140; Sur-reply 3–7. Patent Owner also argues that the draft application describes that a reservation including the presentation ID is transmitted to the viewer which causes the viewer to communicate with a “stream caster 304” to control it so “the media will be streamed to the media player [communication device].” Sur-reply 7 (citing Ex. 2016, 20, 31; Ex. 2017, 10–11).

However, Patent Owner’s arguments are conclusory. These applications say nothing about the presentation ID being an instruction executed by the communication device “to obtain at least one portion of the requested media.” Exs. 1010, 2016, 2017, 2020, 2021, 2023, 2024, 2025. These applications merely disclose providing a presentation ID in a play list or reservation, but they are silent as to how the presentation ID itself being an instruction executed by the communication device to obtain the media. *Id.* It is well settled that “[e]ntitlement to a filing date does not extend to subject matter which is not disclosed but would be obvious over what is expressly disclosed.” *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1571–72 (Fed. Cir. 1997). “It is not sufficient for purposes of the written description requirement of § 112 that the disclosure, when combined with the knowledge in the art, would lead one to speculate as to modifications that the inventor might have envisioned, but failed to disclose.” *Id.* Nor could the claimed subject matter have been “envisioned” from the earlier

disclosure to establish written description support. *Goeddel v. Sugano*, 617 F.3d 1350, 1356 (Fed. Cir. 2010).

Moreover, the presentation ID merely identifies the presentation. The '887 patent makes clear that the presentation itself, not the presentation ID, “may include special instructions, such as special media sequencing instructions, late binding media instructions, and/or special routing instructions.” Ex. 1001, 8:27–32. Therefore, Patent Owner’s argument that the presentation ID is an instruction executed by the communication device “to obtain at least one portion of the requested media,” as required by the claims, is not supported by the '993 application, the '519 application, or the draft application, and it is also inconsistent with the Specification of the '887 patent. For the foregoing reasons, we find that none of the three applications provides adequate written description for the claimed “instructions.”

c. The '044 application

Petitioner also argues that the '044 application fails to provide support for the “instructions” claim elements. Pet. 6. Petitioner notes that the instructions in the presentation script “about how to dynamically change the content” disclosed in the '044 application, are not the claimed “instructions” because they are not transmitted to the user’s device. *Id.* at 7–8.

In its Response, Patent Owner counters that the '044 application is based on a paper entitled “Operational Concept Description (OCD) For Media Routing Algorithm” (“OCD Paper,” Ex. 2022) and dated January 17, 2001. PO Resp. 29; Exs. 2013–2015. However, Patent Owner does not

provide any explanation as to how the '044 application or the OCD Paper provides support for the challenged claims. PO Resp. 29–31.

In its Sur-reply, Patent Owner argues for the first time that “[t]he claimed ‘instructions’ are also supported in the '044 Provisional.” Sur-reply 7 (citing Ex. 2022, 26; PO Resp. 29–31). This is an improper new argument. *See* 37 C.F.R. § 42.23(b); Trial Practice Guide at 74. Patent Owner also fails to explain which feature in the '044 application or the OCD Paper provides support for the claimed “instructions.”

To the extent that Patent Owner relies upon its citation to page 26 of Exhibit 2022, the only instructions described on that page is “the presentation script contains . . . instructions about how to dynamically change the content.” Ex. 2022, 26. The instructions in the presentation script are not the claimed “instructions” because the presentation script is stored in the reservation cache, not transmitted to the user’s device as required by the challenged claims. *Id.* at 25–26. Moreover, the instructions in the presentation script are not executed by the communication device “to obtain at least one portion of the requested media,” as required by the claims, but merely to “change the content (e.g., ads based on demographics) and interstitial content insertion (aka, interstitial ad insertion).” *Id.*

To the extent that Patent Owner argues that the presentation ID in the '044 application provides support for the “instructions” claim elements, that argument also fails for the reasons stated above regarding the '993 application, the '519 application, and the draft application. A presentation ID merely identifies the presentation. Ex. 1011, 19. The '044 application is

silent as to a presentation ID being used as an instruction executed by the communication device “to obtain at least one portion of the requested media.” Ex. 1011. The ’887 patent makes clear that the presentation itself, not the presentation ID, “may include special instructions, such as special media sequencing instructions, late binding media instructions, and/or special routing instructions.” Ex. 1001, 8:27–32.

For the foregoing reasons, we find that the ’044 application fails to provide adequate written description for the claimed “instructions.”

d. Conclusion on priority date of the challenged claims

For the reasons stated above, we find that the challenged claims of the ’887 patent are not entitled to the benefit of the filing dates of the ’993 application, the ’519 application, or the ’044 application. The challenged claims are not entitled to a priority date earlier than January 18, 2002. Thus, Madison qualifies as prior art against the claims of the ’887 patent.

3. Whether Madison and Wolfe would have rendered the claims obvious

Petitioner provides detailed explanations to account for all of the claim limitations recited in claims 39, 45, 52, 68, 98–101, 103, 105, 111, 115, and 117 and reasons to combine the teachings of Madison and Wolfe. Pet. 45–71. In support of its arguments, Petitioner directs our attention to Dr. Houh’s Declaration. Ex. 1003. Patent Owner argues that Madison and Wolfe fail to disclose certain claim limitations, and that Petitioner fails to articulate a reason to combine the prior art teachings, citing to the Declaration of Mr. Adams for support. PO Resp. 48–61, 65–67 (citing

Ex. 2012). For the reasons stated below, we find that Petitioner has demonstrated by a preponderance of the evidence that claims 39, 45, 52, 68, 98–101, 103, 105, 111, 115, and 117 would have been obvious over Madison in view of Wolfe. We do not find that Patent Owner’s arguments and Mr. Adams’s testimony refute Petitioner’s showing. Our analysis below focuses on the disputed claim elements.

4. Claims 39, 45, 68, 98–100, 103, 105, 111, 115, and 117

a. *“At least one portion of the requested media” and “other portion”*

Claims 39, 45, 68, and 98 require a “computing device” to receive a request for media from a “communication device” that is capable of obtaining “at least one portion of the requested media” from a “resource.” *See, e.g.*, Ex. 1001, 55:20–26. These claims also require identifying “at least one portion of the requested media.” *See, e.g., id.* at 55:36–37. Claim 115 requires the request for media is “a request for video.” *Id.* at 65:28–30. Claim 117 recites “identification of at least one *other portion* of the requested media in the communication.” *Id.* at 65:35–38 (emphasis added).

Petitioner asserts that Madison in view of Wolfe discloses these claim elements. Pet. 54–55, 58, 70–71 (citing Ex. 1003 ¶¶ 299–301, 312–315, 423–424). Petitioner contends that the user’s processor in Madison with a media player (e.g., a personal computer), which sends a request for media (e.g., a playlist with multiple stream files), is the claimed “communication device,” and Madison’s playlist server is the claimed “computing device.” *Id.* at 54–55 (citing Ex. 1051 ¶¶ 20–21, 25, 31 (“content is audio and or video”), 106). Petitioner explains that, in response to the user’s request for

media, the playlist server generates a redirector file (e.g., an ASX file) containing a list of URLs which include filenames (“stream1,” “stream2,” and “stream3”) that identify multiple portions of the requested media. *Id.* at 55 (citing Ex. 1051 ¶¶ 109–110). Petitioner avers that the user uses the redirector file to obtain media from the streaming server (“resource”). *Id.* (citing Ex. 1051 ¶¶ 102, 109, 111). We agree with Petitioner’s reasoning and find that for the reasons given, that Madison teaches the above-identified elements of claims 39, 45, 68, 98, 115, and 117.

Patent Owner counters that the claims of the ’887 patent “are directed to a method of streaming requested media in *portions* (i.e., portion-by-portion or more *portions* at a time), *not* the entire media all together.” PO Resp. 48–50 (citing Ex. 2012 ¶¶ 193–198); Sur-reply 1–2, 17. According to Patent Owner, “[t]he claims and specification of the ’887 Patent distinguish between requested media (e.g., an *entire* movie) and ‘portions’ of requested media (e.g., a portion of a movie),” and “the claims recite receiving a ‘request for media’ (a request for the *full* media).” PO Resp. 48–50 (citing Ex. 2012 ¶¶ 196; Ex. 1011, 19). Patent Owner also argues that Madison and Wolfe do not disclose “identifying, streaming or obtaining *portions* of requested media (e.g., a portion of a movie)” because “the Madison playlist contains multiple separate videos (separate streams), not *portions* of a *single* video.” *Id.* at 48–50, 61 (citing Ex. 2012 ¶¶ 197–198).

At the outset, Patent Owner incorrectly assumes that all of the challenged claims require “streaming requested media *in portions*.” *Id.* at 48–50; Ex. 2012 ¶¶ 193–198; Sur-reply 1–2, 17. Patent Owner admits that

only claim 117 recites “identification of at least one *other portion* of the requested media in the communication.” PO Resp. 49, 61. Through its arguments, Patent Owner implicitly construes the claim term “at least one portion of the requested media” to exclude the entirety of the “requested media” or to require that the “requested media” be broken up into portions. As discussed above, in a preferred embodiment of the ’887 patent, the viewer sends a request for *each media clip* (the “requested media”) to a “computing device” and each media clip is received *in its entirety*, not broken up or received one portion at a time as Patent Owner alleges.

Ex. 1001, 13:49–14:2. For the reasons discussed above in Section II.A.1, we decline to adopt Patent Owner’s implicit claim construction. However, even if we were to apply Patent Owner’s construction, we still would find that Petitioner has shown that Madison teaches the claim elements at issue for the reasons stated below.

Notably, Patent Owner’s arguments also improperly rest on the premise that the “requested media” must be a single media item (e.g., an entire movie). PO Resp. 50. The ’887 patent makes clear that the “requested media” may be a single media item or multiple media items (e.g., a program with multiple media items), and that “[m]edia may include one or more *media clips or a part of a media clip*.” Ex. 1001, 3:47–50, 4:10–20, 18:30–32, 19:10–11 (emphasis added). The Specification discloses that the “content owner may create a program having one or more media items” including “*a media clip for a movie and an advertisement*,” and that a “viewer may desire to receive one or more of the media identified in the

program.” *Id.* (emphasis added). Hence, the “requested media” may be “a media clip for a movie” or a program having a plurality of media items, not necessarily a single entire piece of media or an entire movie as Patent Owner alleges. Interpreting the “requested media” to require a single entire media item or an entire movie is inconsistent with the Specification.

We also disagree with Patent Owner’s argument that “the Madison playlist contains multiple separate videos (separate streams), not *portions* of a *single* video.” PO Resp. 50. Patent Owner improperly assumes that each file referenced in Madison’s ASX redirector file is the entire “requested media.” On the contrary, the “requested media” in Madison is a playlist comprising multiple stream files, and the stream files are portions of the “requested media.” Ex. 1051 ¶¶ 103, 106. The URLs in the ASX redirector file in Madison identifies multiple portions of the “requested media.” *Id.* ¶¶ 108–110.

Madison also makes clear that advertisements may be inserted between portions of the requested media. Ex. 1051 ¶ 32 (“ad tag (which specified where an advertisement is to be inserted), start time (if the Stream is a portion of the file)”). In addition, Mr. Adams admitted that a relevant artisan would have understood how to use ASX files to transmit portions of a complete media file (e.g., a half of a TV episode, followed by an advertisement, followed by the second half of a TV episode). Ex. 1081, 110:7–111:9. Indeed, Dr. Houh testifies that the Microsoft’s 1999 article “All About ASX Files” (Ex. 1017) is exemplifies an ordinarily skilled artisan’s knowledge and the article teaches inserting advertising or special

interest clips between portions of the media. Ex. 1003 ¶ 316 (citing Ex. 1017, 1, 4).

For the foregoing reasons, we find that Petitioner has shown sufficiently that Madison in view of Wolfe discloses the aforementioned claim elements of claims 39, 45, 68, 98, 115, and 117.

b. Identifying availability

Claims 39, 45, and 68 recite identifying “whether the requested media is available for streaming.” *See, e.g.*, Ex. 1001, 55:27–30. Petitioner relies upon Madison’s Streams2 Table in the playlist server to account for this claim element. Pet. 55–56. Petitioner explains that the Streams2 Table includes expiration dates which identify whether the associated media is available (i.e., expired content is unavailable). *Id.* (citing Ex. 1051 ¶¶ 31–32). Petitioner asserts that a relevant artisan would have understood this identification to be in accordance with a program, such as “a script running on the system” for deletion of expired content suggested by Madison. *Id.* (citing Ex. 1003 ¶¶ 302–304; Ex. 1051 ¶¶ 28, 34 (status of “deleting” applicable to files on “repository server” and “media server”), 47 (“For each record containing such an expiration date, the systems . . . delete the content.”), 109). We agree with Petitioner’s reasoning and find that for the reasons given, Madison teaches the above element of claims 39, 45, and 68.

Patent Owner counters that Madison does not disclose identifying whether the requested media is available for streaming in response to the computing device receiving a request for media. PO Resp. 51–52. However, Patent Owner incorrectly interprets “the claims [to] require an

identification of availability of requested media *in response to* the computing device receiving a request for media.” *Id.*; Sur-reply 17–18. Tellingly, the “in response to computing device receiving a request for media” language does not appear in the relevant claims (claims 39, 45, and 68). *Cf.* Ex. 1001, 55:27–30 (claim 39’s “identifying availability” element), *with id.* at 63:37–44 (claim 98’s “generating a communication” element).

In any event, it is undisputed that Madison teaches removing or deleting entries from the Streams2 table when they are no longer available for streaming because they have expired or because the content owner asks to remove them. Ex. 1051 ¶¶ 28, 31, 32, 34, 47, 109. Moreover, Madison makes clear that, in response to the user’s request for media, the computer device identifying whether the requested media is available for streaming. *Id.* Madison discloses that “[t]he process of deletion” includes “changing the hostname for the stream being deleted to another system server that hosts a default message, indicating to the end user 104 that the requested content is not available” and “[t]he system also replaces the stream’s actual filename, as stored in the Streams2 Table 214, with the filename of such default message.” *Id.* ¶ 47.

For the foregoing reasons, we find that Petitioner has shown that Madison discloses the “availability” element of claims 39, 45, and 68.

c. “Communication” or information

Claims 39, 45, 68, and 98 require generating a communication or information (a list identifying the requested media, resource identification and instructions) based on “one or more capabilities of the communication

device” and “at least one characteristic associated with a user of the communication device.” *See, e.g.*, Ex. 1001, 55:31–34. Claim 39 also requires generating the information based on at least one program. *Id.* Claim 45 also requires generating the information based on at least one rule. *Id.* at 57:1–12. Claim 99 requires the user characteristic to be a “user identification.” *Id.* at 63:57–64. Claim 100 requires the user characteristic to be a user profile, preference, or geographic location. *Id.* at 63:65–64:4. Claim 103 requires the one or more capabilities of the communication to be a format or protocol used by the communication device. *Id.* at 64:15–27. Claim 105 requires generating and transmitting the communication based one or more other rules that specify at least one of a frame rate, a bit rate, a sequence, and a format associated with the request media. *Id.* at 64:35–40.

Petitioner asserts that Madison in view of Wolfe teaches these claim elements. Pet. 56–58, 61–63, 67–70. Petitioner explains that Madison’s redirector file (the claimed “communication” or information) is generated based on at least one program because Madison’s playlist server generates a redirector file using a “makeplaylist” program. *Id.* at 56 (citing Ex. 1051 ¶¶ 31–32, 34, 47, 108). Petitioner contends that Madison’s redirector file also is based on capabilities of the communication device because Madison teaches that the redirector file’s format must be compatible with the end user’s media player and that the URLs in the redirector file includes the proper protocol (“mms://”). *Id.* at 56–57, 69 (citing Ex. 1051 ¶¶ 25 (The playlist server “dynamically generat[es] a playlist metafile” (e.g., ASX,

RAM, SMIL, and RPM files) “to be provided to the end-user’s windows media player”), 70, 109–111).

Petitioner avers that Madison’s redirector file, as modified in view of Wolfe, is generated based on characteristics of the user (e.g., the user’s geographic location). *Id.* at 57 (citing Ex. 1051 ¶¶ 30, 109). Petitioner explains that Wolfe discloses advertisements “tailored to the individual” using subscriber profiles (e.g., age, demographic data, musical selections, and purchasing habits) and the “[c]ontent is encoded to . . . identify the subscriber to whom the content is to be delivered.” *Id.* at 67 (citing Ex. 1044, 1:51–60, 2:12–17, 4:13–18, 4:50–55, 7:28–30). Petitioner asserts that a relevant artisan would have been motivated to combine Wolfe’s targeted advertising with Madison’s redirector file. *Id.* at 57–58, 52–54 (citing Ex. 1003 ¶¶ 305–311).

Petitioner also contends that Madison alone and Madison in view of Wolfe teach using a rule to select media for inclusion in the redirector file, because Madison discloses rules for providing streaming (e.g., the “expiration date” dictates that expired content will not be streamed) and Wolfe discloses rules for providing streaming based on subscriber profiles (e.g., age and demographic data). *Id.* at 61–63 (citing Ex. 1051 ¶¶ 28, 31; Ex. 1044, 3:40–47, 4:1–6, 4:12–17, 4:50–55 (describing “musical material and advertisements transmitted may vary as a function of the information contain in the [subscriber] dossiers”); Ex. 1003 ¶¶ 336–338). Petitioner further explains that Madison teaches generating and transmitting the redirector file based on other rules specifying a bit rate, a sequence and a

format because Madison's Streams2 table lists "stream type," "bite rate of the content," and "stream format" in each entry and it is used to generate and transmit the redirector file. *Id.* at 69–70 (citing Ex. 1051 ¶¶ 32, 70, 109). We agree with Petitioner's reasoning and find that for the reasons given, that Madison in view of Wolfe teaches the aforementioned claim elements of claims 39, 45, 68, 98–100, 103, and 105.

Patent Owner advances several arguments. First, Patent Owner argues that Madison's redirector file is not generated based on targeted ads or user profiles, and "Wolfe discloses targeted advertising says nothing about whether Wolfe discloses the claimed information being based on a user 'characteristic.'" PO Resp. 52–53 (citing Ex. 2012 ¶¶ 204–205); Sur-reply 18–19. However, one cannot show nonobviousness by attacking references individually where the grounds of unpatentability are based on combinations of references. *Keller*, 642 F.2d at 426. Instead, the test for obviousness is whether the references, taken as a whole, would have suggested the claimed subject matter to a person of ordinary skill in the art at the time the invention was made. *See Merck*, 800 F.2d at 1097. Notably, Madison's system, as modified in view of Wolfe, would generate the redirector file (i.e., the claimed "communication" or information that includes a list identifying the requested media, resource identification, and instructions) with insertions of targeted advertisements based on the user characteristics. Claim 111 provides that the claimed "instructions" include instructions relating to "an advertisement insertion." Ex. 1001, 65:5–11.

Second, Patent Owner argues that Petitioner fails to identify a rule that is used to generate the information, as required by claim 45. PO Resp. 57–58. However, Patent Owner does not dispute that Madison in view of Wolfe teaches “generating a redirector file based on a rule for selecting media for inclusion in the redirector file.” *Id.* Indeed, as discussed above, Madison discloses rules for providing streaming (e.g., the “expiration date” dictates that expired content will not be streamed) and Wolfe discloses rules for providing streaming based on subscriber profiles (e.g., age and demographic data). Ex. 1051 ¶¶ 28, 31; Ex. 1044, 3:40–47, 4:1–6, 4:12–17, 4:50–55 (describing “musical material and advertisements transmitted may vary as a function of the information contain in the [subscriber] dossiers”); Ex. 1003 ¶¶ 336–338. Madison’s redirector file that includes the claimed “communication” or information (a list identifying the requested media, resource identification, and instructions), as modified in view of Wolfe, would be generated based on these rules. Ex. 1003 ¶ 336 (citing Ex. 1051 ¶¶ 28, 31).

Finally, Patent Owner argues that neither Madison nor Wolfe discloses using a user identification, profile, or geographic location to generate a communication, as required by claim 99 and 100. PO Resp. 59 (citing Ex. 2012 ¶ 218). However, Madison’s redirector file, as modified in view of Wolfe, is generated based on characteristics of the user (e.g., the user’s geographic location). Ex. 1051 ¶¶ 30, 109. Wolfe also discloses advertisements “tailored to the individual” using subscriber profiles (e.g., age, demographic data, musical selections, and purchasing habits) and the

“[c]ontent is encoded to . . . identify the subscriber to whom the content is to be delivered.” Ex. 1044, 1:51–60, 2:12–17, 4:13–18, 4:50–55, 7:28–30.

Madison’s redirector file, as modified in view of Wolfe, would be generated based on these rules. Ex. 1003 ¶ 336 (citing Ex. 1051 ¶¶ 28, 31).

For the foregoing reasons, we find Petitioner has shown that Madison in view of Wolfe teaches the aforementioned elements of claims 39, 45, 68, 98–100, 103, and 105.

d. “Instructions”

Claims 39, 45, 68, and 98 require “instructions . . . to obtain at least one portion of the requested media” and “instructions as to how the at least one portion of the requested media is to be streamed.” *See, e.g.*, Ex. 1001, 55:23–26. Claim 111 requires “the one or more instructions” to include “instructions relating to at least one of a media format, a media language, a media sequence, and an advertisement insertion.” *Id.* at 65:5–11.

Petitioner asserts that Madison’s playlist server generates the redirector file in ASX format, and that a relevant artisan would have understood that ASX files include instructions for obtaining media. Pet. 55, 58–59 (citing Ex. 1051 ¶¶ 25, 108–109, Fig. 2b; Ex. 1003 ¶¶ 316–318). Dr. Houh testifies that Microsoft’s 1999 article “All About ASX Files” (Ex. 1017) exemplifies such an artisan’s knowledge, and the article explains that, when a user’s device receives an ASX file, it launches Windows Media Player, which “looks in the ASX for instructions on where to get the ASF file, and then starts the stream playing.” Ex. 1003 ¶¶ 316–318 (quoting Ex. 1017, 1). Dr. Houh also testifies that such an artisan would have

understood that Madison's ASX files include instructions to play files in a particular order or to dynamically inserting advertisements because ASX playlists also include instructions "to schedule content to play in succession, or insert advertising or special interest clips into a stream." *Id.* (quoting Ex. 1017, 4). In addition, Dr. Houh testifies that the relevant artisan would have understood to use the entries in Madison's Streams2 Table pertaining to when to play advertisements (e.g., ad tag, start time, and bitrate) to place instructions into the redirector file. *Id.* (citing Ex. 1051 ¶¶ 108–109, Fig. 2b). We agree with and credit Dr. Houh's testimony as it is consistent with Madison and the general knowledge of a relevant artisan, as evidenced by "All About ASX Files."

Patent Owner advances several arguments. First, Patent Owner argues that "URLs cannot be the claimed 'instructions' because the claims require 'instructions' *separate* from the 'identification of the at least one resource.'" PO Resp. 55, 60; Sur-reply 21–22. However, Patent Owner's argument improperly rests on the premise that instructions cannot be part of the URL's. As discussed above in Section II.E.1.c, the claims do not require the instructions to be separate from the URLs for obtaining media. The '887 patent discloses that "there are many possible ways of formatting the URLs," and that a URL may include instructions and identifications. Ex. 1001, 8:61–64, 10:28–33, 24:45–47; Ex. 1011, 18. Mr. Adams also admitted that formatting the instructions "as part of the URL string doesn't actually . . . change[] anything . . . you're still transmitting the instructions,"

and that “[i]t’s a formatting difference, quite frankly” and “[s]o I think actually both satisfy the claims in my opinion.” Ex. 1081, 180:22–181:5.

Second, Patent Owner argues that entries Madison’s Stream2 Table (ad tags, start time, and bit rate), scheduling content to play in succession, and inserting advertising in a stream are related to how media is displayed or presented to the user, not used to obtain requested media nor related to how media is to be streamed. PO Resp. 54–55; Sur-reply 19–22. Patent Owner also argues that Petitioner and Dr. Houh admit that “[i]nstructions about *how* the play should *present* the media to the viewer,” “are not the claimed instructions as to *how . . . requested media is to be streamed*” as required by the claims. PO Resp. 54–55 (citing Pet. 7–8; Ex. 2019, 290:12–291:8).

Patent Owner’s arguments are unavailing. Claim 111 refers to a media format, media sequence, and advertisement insertion, as types of instructions to obtain the requested media. Ex. 1001, 65:5–11. Patent Owner implicitly construes the claimed “instructions” to exclude those instructions recited in claim 111. As discussed above in Section II.A.2, we decline to adopt Patent Owner’s construction and construe the claimed “instructions” to encompass the types of instructions recited in claim 111. Moreover, Mr. Adams admitted that sequencing instructions are related to how the media is obtained because “[i]t would be normal to obtain the portions or media clips in the order in which they’re going to be played.” Ex. 1081, 131:14–19. As discussed above, we agree with and credit Dr. Houh’s testimony that one of ordinary skill in the art would have recognized that Madison’s ASX redirector files include instructions related

to a media format, media sequence, and advertisement insertion, the types of instructions recited in claim 111. Ex. 1003 ¶¶ 316–318, Ex. 1051 ¶¶ 25, 108–109, Fig. 2b; Ex. 1017, 4.

Patent Owner’s reliance on Petitioner’s statement and Dr. Houh’s testimony is misplaced. As discussed above in Section II.E.1.c, Petitioner’s statement and Dr. Houh’s testimony are related to the ’044 application’s disclosure, not the prior art disclosures. Pet. 7–8 (citing Ex. 1011, 29); Ex. 2019, 289:20–291:10.

Third, Patent Owner argues that “All About ASX Files” is applied to meet the claim element, and that reference is not part of any asserted ground and should be disregarded. PO Resp. 54–55; Sur-reply 19–22.

Patent Owner’s arguments are unavailing. Petitioner relies upon Dr. Houh’s testimony, which is corroborated by “All About ASX Files,” to establish that ASX files, including instructions to obtain media, were within the general knowledge of an ordinarily skilled artisan. Pet. 58–59; Ex. 1003 ¶¶ 316–317; Ex. 1017, 1, 4. Moreover, Patent Owner does not proffer evidence to rebut Petitioner’s showing that such an artisan would have known about ASX files, including instructions to obtain media. Indeed, Mr. Adams admitted that an ordinarily skilled artisan would “naturally go to the Microsoft documentation,” including “All About ASX Files” while using ASX files. Ex. 1081, 97:11–98:4; Ex. 1017.

The Federal Circuit has explained “even though evidence such as expert testimony . . . are not themselves prior art references, they are permissible evidence in an *inter partes* review for establishing the

background knowledge possessed by a person of ordinary skill in the art.” *Qualcomm Inc. v. Apple Inc.*, 24 F.4th 1367, 1376 (Fed. Cir. 2022). The Federal Circuit also has rejected an argument that, because the general knowledge of a skilled artisan does not constitute “prior art consisting of patents or printed publications” under § 311(b), it cannot be used in an *inter partes* review to supply missing claim elements. *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1337–38 (Fed. Cir. 2020) (“Regardless of the tribunal, the inquiry into whether any ‘differences’ between the invention and the prior art would have rendered the invention obvious to a skilled artisan necessarily depends on such artisan’s knowledge.”).

An obviousness “analysis requires an assessment of . . . the background knowledge possessed by a person having ordinary skill in the art.” *Dow Jones & Co. v. Abblaise Ltd.*, 606 F.3d 1338, 1349, 1353 (Fed. Cir. 2010) (quoting *KSR*, 550 U.S. at 401) (quotation marks omitted). “As *KSR* established, the knowledge of such an artisan is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious.” *Randall Mfg. v. Rea*, 733 F.3d, 1355, 1362–63 (Fed. Cir. 2013). Therefore, we are required to consider references, like the “All About ASX Files” article, cited as “evidence of the background understanding of skilled artisans.” *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015) (holding that references “can legitimately serve to document the knowledge that skilled artisans would bring to bear in reading the prior art identified as producing obviousness” and vacating the Board’s decision because it appeared that the

Board had declined to consider a reference simply because the reference “had not been identified at the petition stage as one of the pieces of prior art defining a combination for obviousness.”).

In sum, we find that Petitioner has shown that Madison in view of Wolfe teaches the “instructions” recited in claims 39, 45, 68, 98, and 111.

e. “Revenue sharing rule” and “settlement record”

Claims 39, 45, 68, and 98 require identifying a “revenue sharing rule” for sharing between two parties a percentage of revenue generated by streaming the requested media, and a “settlement record” that reflects a sharing of the percentage of revenue. *See, e.g.*, Ex. 1001, 55:49–57. Claims 45, 68, and 98 also requires that the requested media is associated with the revenue sharing rule. *See, e.g., id.* at 56:55–58. As discussed above in Section II.A.3, we construe the term “settlement record” as “billable event record to be used for revenue settlement.”

Petitioner asserts that Madison in view of Wolfe discloses these claim elements. Pet. 60–61. Petitioner explains that Madison teaches inserting advertisements into the redirector file, and that Wolfe has a program that “tallies accounts, listing the frequency of play and transmission of music . . . to subscribers” for “calculating (if necessary) royalty fees payable to the owner of the music” and “preparing billing data for advertisers.” *Id.* (citing Ex. 1051 ¶ 32; Ex. 1044, 5:26–44). Petitioner also explains that an ordinarily skilled artisan would have understood that a percentage of the advertising revenue is shared between the music owners and the system operators. *Id.* (citing Ex. 1044, 1:51–60, 5:34–36; Ex. 1003 ¶¶ 322–323).

Petitioner avers that a relevant artisan would have been motivated to combine Wolfe’s account tallying and royalty calculation with Madison’s system. *Id.* (citing Ex. 1003 ¶ 321). We agree with Petitioner’s reasoning and find that for the reasons given, that Madison in view of Wolfe accounts for the aforementioned claim elements of claims 39, 45, 68, and 98.

Patent Owner advances several arguments. First, Patent Owner argues that “there is no motivation to combine the teaching of Wolfe with Madison.” PO Resp. 56. We find this argument unavailing for the reasons stated below in Section II.G.5.

Second, Patent Owner argues that Wolfe does not disclose a programmed “revenue sharing rule” and that Wolfe does not disclose “preparing an actual bill further indicates that the system itself is not performing billing tasks or using rules.” *Id.* at 56–57; Sur-reply 22.

Patent Owner’s arguments are unavailing. Dr. Houh testifies that, because Wolfe aims to provide media to subscribers without charge by “bundling” media with targeted advertisements, “the ‘royalty fees payable to the owners of the music’ necessarily come from advertising revenue.” Ex. 1003 ¶ 322 (citing Ex. 1044, 1:51–60, 5:34–36). Dr. Houh also testifies that a relevant artisan would have understood that “a percentage of this advertising revenue is shared between the music owners and the system operators.” *Id.* Indeed, Mr. Adams admitted that, for Wolfe to have its costs underwritten by advertisement revenue, it must share that revenue among the service provider and the content provider. Ex. 1083, 50:20–52:1. Therefore, we find a relevant artisan would have recognized that Wolfe discloses

identifying a “revenue sharing rule” for sharing between two parties a percentage of revenue generated by streaming the requested media, as required by claims 39, 45, 68, and 98.

To the extent that Patent Owner argues that Madison in view of Wolfe does not disclose generating a “settlement record,” we find that argument unavailing. As discussed above, we construe the term “settlement record” as “billable event record to be used for revenue settlement.” Wolfe explicitly discloses its CPU, as shown in Figures 1 and 2, determines “whether it is necessary to take care of billing matter,” and then “tallies accounts” and “preparing billing data for advertisers.” Ex. 1044, 5:26–44, Figs. 1, 2. Patent Owner does not dispute that the information tracked by Wolfe is useful to calculate royalties and that it is being collected for preparing a bill. PO Resp. 56–57. Mr. Adams admitted that “the information collected can be used to generate an invoice,” and “the events that are tracked can be used to prepare a bill.” Ex. 1084, 96:20–97:2. Thus, we find that Madison in view of Wolfe also discloses generating the claimed “settlement record.”

Third, Patent Owner argues that “Wolfe discloses paying royalties says nothing about whether a specific requested media is associated with a revenue sharing rule.” PO Resp. 57. Patent Owner’s argument is unavailing, however. Wolfe’s program tallies accounts, listing the frequency of play and transmission of music (the requested media). Ex. 1044, 5:26–44. The royalty fees in Wolfe is “payable to the owners of the music.” *Id.* We agree with Dr. Houh that “Wolfe’s requested media is

associated with sharing rule because ‘royalty fees payable to the owners of the music’ are royalty fees associated with the music.” Ex. 1003 ¶ 332.

Finally, Patent Owner argues for the first time in its Sur-reply that the revenue from advertisements in Madison and Wolfe is not a revenue generated by streaming the requested media. Sur-reply 22. Patent Owner’s argument is improper because no new arguments are permitted in a sur-reply. *See* 37 C.F.R. § 42.23(b); Trial Practice Guide at 74.

In any event, Patent Owner’s argument is unavailing. Claim 47 depends from claim 45, and recites that “the revenue sharing rule is identified as an *advertising revenue sharing rule*.” Ex. 1001, 57:26–28 (emphasis added). Patent Owner implicitly construes the term “revenue sharing rule” as recited in the independent claims 39, 45, 68, and 98 to exclude the type of revenue sharing rule recited in claim 47. As discussed above in Section II.E.1.d, we decline to adopt Patent Owner’s construction because “[a]n independent claim impliedly embraces more subject matter than its narrower dependent claim.” *Intamin*, 483 F.3d at 1335; *see also Baxalta*, 972 F.3d at 1346. We construe the claim term “revenue sharing rule,” as recited in the independent claims 39, 45, 68, and 98, to encompass “an advertising revenue sharing rule,” the type of revenue sharing rule recited in dependent claim 47.

In addition, as discussed above, Madison in view of Wolfe discloses a redirector file that includes links to the requested media and targeted advertisements. Ex. 1051 ¶¶ 32, 109–110; Ex. 1044, 1:51–60, 4:13–18, 4:50–55. Patent Owner fails to recognize that the advertisements are

streamed with the requested media. Any revenue from those advertisements would be revenue generated by streaming the requested media.

For the foregoing reasons, we find that Petitioner has shown that Madison in view of Wolfe discloses identifying a “revenue sharing rule” and generating a “settlement record,” as recited in claims 39, 45, 47, 68, and 98.

5. Reasons to combine the teachings of Madison and Wolfe

Petitioner asserts that an ordinarily skilled artisan would have been motivated to apply (1) Wolfe’s bundling targeted advertisement to Madison, and (2) Wolfe’s tracking information for billing and sharing revenue between entities. Pet. 52. Petitioner points out that Madison’s ASX redirector files include ad tags (specifying where an advertisement is to be inserted). *Id.* at 57 (citing Ex. 1051 ¶ 32). Dr. Houh testifies that a relevant artisan would have understood that Madison’s redirector file could contain references to advertisements. Ex. 1003 ¶ 308. Dr. Houh also testifies that such an artisan would have been motivated to combine Wolfe’s targeted advertising with Madison’s advertisement insertion because, as Wolfe explains, “[i]t is desirable to provide an Internet based system for the dissemination of valuable proprietary information free of charge, . . . with advertiser sponsorship” and bundling media with targeted advertisements underwrites the cost of supplying the media. *Id.* ¶¶ 295–296, 309 (citing Ex. 1044, 1:24–31 (recognizing deficiencies in prior art because of difficulties “to deliver specific advertisement messages to finely selected audiences”), 1:43–48, 1:55–60). Dr. Houh further testifies that a relevant artisan would have recognized the benefits of implementing Wolfe’s

tracking information for billing and sharing revenue between entities in Madison—namely, “tracking played advertisements to more accurately report effectiveness and tailor billings and revenues based on ad impressions by making ‘an accounting . . . of the total advertising air time used and . . . [billing] advertisers . . . accordingly.’” *Id.* (citing Ex. 1044, 5:37–44). We find that Petitioner has articulated a sufficient reason to combine the teachings of Madison and Wolfe.

Patent Owner argues that “Madison and Wolfe are distinctly different types of systems” and “the goals of Madison and Wolfe are so different.” PO Resp. 65–66. Patent Owner also argues that a relevant artisan would not have modified Madison because “it is focused on sharing content in a community of content owners/consumers without compensation, whereas Wolfe is focused on advertisers paying compensation to content owners.” Sur-reply 23.

Patent Owner arguments are unavailing. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.” *Keller*, 642 F.2d at 425. “Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *Id.* Moreover, the Federal Circuit has recognized that an obviousness showing “does not require that a particular combination must be the preferred, or the most desirable, combination described in the prior art in order to provide motivation for the current invention.” *Novartis Pharms.*, 923 F.3d at 1059.

Here, both Madison and Wolfe disclose inserting advertisements in streaming media. When asked “what is the point of having commercials in streaming media” during cross-examination, Mr. Adams admitted that “[t]here are a number of different reasons why you might want to include commercials,” such as “to *generate revenue for the service.*” Ex. 1083, 40:10–18 (emphasis added). We agree with and credit Dr. Houh’s testimony that such an artisan would have recognized the benefits of applying Wolfe’s teachings of targeted advertisements, revenue sharing, and settlement recording to Madison’s system—e.g., “tracking played advertisements to more accurately report effectiveness and tailor billings and revenues based on ad impressions by making ‘an accounting . . . of the total advertising air time used and . . . [billing] advertisers . . . accordingly.’” Ex. 1003 ¶¶ 295–296, 309; Ex. 1044, 1:24–31, 1:43–48, 1:55–60, 5:37–44. “[W]hen a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.” *KSR*, 550 U.S. at 418 (quoting *Sakraida*, 425 U.S. at 282).

For the foregoing reasons, we find that Petitioner articulated an adequate reason to combine the teachings of Madison and Wolfe. We do not find that Patent Owner’s arguments undermine Petitioner’s reasoning.

6. Claims 52 and 101

Petitioner has accounted for the limitations recited in each of the remaining dependent claims—claims 52 and 101. Pet. 64, 69. As to claim 52 that requires the “rule” to be a “service rule,” “storage rule,”

“collection rule,” or “viewing rule,” Petitioner asserts that Madison teaches a storage rule identifying where the portion of the requested media will be located for storage because Madison’s “system places each client’s content on the streaming media server 120 that has the most free disk or storage space.” *Id.* at 64 (citing Ex. 1051 ¶ 100; Ex. 1003 ¶ 357). For claim 101 that requires generating the communication comprising a “unique identifier” to enable the requested media to be streamed, Petitioner asserts that Madison’s redirector file includes URLs, which are unique identifiers used by the end user device to receive streaming media. *Id.* at 69 (citing Ex. 1051 ¶ 110; Ex. 1003 ¶¶ 412–413). Based on the evidence of record, we find that Petitioner has shown sufficiently that claims 52 and 101 would have been obvious over Madison and Wolfe.

For these claims, Patent Owner relies upon the same arguments presented for claims 39, 45, 68, and 98. PO Resp. 58. We find those arguments unavailing for the reasons stated above in Sections II.G.3–5.

In addition, for claim 52 that requires the “rule” to be a “service rule,” “storage rule,” “collection rule,” or “viewing rule,” Patent Owner argues that the rule identified by Petitioner in Madison is not used to generate the required information. *Id.* Patent Owner’s argument is unavailing. As Petitioner explains, Madison teaches a storage rule identifying where the portion of the requested media will be located for storage because Madison’s “system places each client’s content on the streaming media server 120 that has the most free disk or storage space.” Pet. 64 (citing Ex. 1051 ¶ 100; Ex. 1003 ¶ 357). Madison’s redirector file (information) includes a list of

URLs containing hostnames identifying media servers. Ex. 1051 ¶ 109 (“mediaserver.company.com” in exemplary URL). Therefore, Madison’s redirector file is generated based on the storage rule.

For claim 101, Patent Owner argues that Madison’s URLs are not the claimed “unique identifier” because Petitioner already relies upon the URLs to disclose identification of the requested media and resource identification. PO Resp. 59–60.

Patent Owner’s argument is misplaced as it incorrectly assumes that a URL containing metadata cannot be a “unique identifier” while also being an identification for other things. The claim does not require the unique identifier to be separate from the URLs. As discussed above in Section II.E.1.c, the ’887 patent discloses that “there are many possible ways of formatting the URLs,” and that a URL may include instructions and several identifications, such as the identification of the requested media, the reservation identification, and order identification. Ex. 1001, 8:61–64, 10:28–33, 24:45–47; Ex. 1011, 18; *see also* Ex. 1081, 180:22–181:5. Moreover, as Petitioner explains, Madison’s redirector file includes URLs, which are unique identifiers used by the end user device to receive streaming media. Pet. 69 (citing Ex. 1051 ¶ 110; Ex. 1003 ¶¶ 412–413).

For the foregoing reasons, we find that Eyal in view of Angles would have rendered claim 101 obvious. In sum, we find that Petitioner has shown that claims 52 and 101 would have been obvious over Madison and Wolfe.

7. Conclusion on Obviousness over Madison and Wolfe

For the foregoing reasons, we find that Petitioner has shown sufficiently that the combination of Madison and Wolfe teaches or suggests all of the limitations recited in claims 39, 45, 52, 68, 98–101, 103, 105, 111, 115, and 117, and Petitioner has articulated an adequate reason to combine the prior art teachings. As such, we find that Petitioner has established by a preponderance of the evidence that claims 39, 45, 52, 68, 98–101, 103, 105, 111, 115, and 117 are unpatentable under § 103(a) as obvious over Madison and Wolfe.

III. CONCLUSION

For the foregoing reasons, we conclude that Petitioner has established by a preponderance of the evidence that claims 39, 40, 45, 47, 52, 68, 98–101, 103, 105, 111, and 115–117 patent are unpatentable.

IV. ORDER⁶

For the foregoing reasons, it is

ORDERED that claims 39, 40, 45, 47, 52, 68, 98–101, 103, 105, 111, and 115–117 of the '887 patent are unpatentable; and

⁶ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

Claims	35 U.S.C. §	Reference(s) /Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
39, 40, 45, 47, 52, 68, 98–101, 103, 111, 115–117	103(a)	Eyal, Angles	39, 40, 45, 47, 52, 68, 98–101, 103, 111, 115– 117	
105	103(a)	Eyal, Angles, Chang	105	
39, 45, 52, 68, 98–101, 103, 105, 111, 115, 117	103(a)	Madison, Wolfe	39, 45, 52, 68, 98–101, 103, 105, 111, 115, 117	
Overall Outcome			39, 40, 45, 47, 52, 68, 98–101, 103, 105, 111, 115–117	

Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

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